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RESTRICTED

JOURNAL

OF THE

ASIATIC SOCIETY OF BENGAL.



VOL. XLIII.

PART I. (HISTORY, LITERATURE, &C.)

(Nos. I TO IV.—1874: with nineteen plates.)

EDITED BY

THE PHILOLOGICAL SECRETARY.

"It will flourish, if naturalists, chemists, antiquaries, philologers, and men of science in different parts of *Asia*, will commit their observations to writing, and send them to the Asiatic Society at Calcutta. It will languish, if such communications shall be long intermitted; and it will die away, if they shall entirely cease." SIR WM. JONES.

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1874.

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ERRATA

IN

JOURNAL, ASIATIC SOCIETY OF BENGAL, FOR 1874,

PART I.

Page 83, note, *for* Qází-qaçbáh *read* Qází-qaçbah
—— 98, line 2, add to the end ابو المظفر
—— 116, last line, *for* Zohair[28] *read* Zohair[29]
—— 133, line 1, *for* ḲA'SIM *read* BIN EL-ḲA'SIM
—— 196, line 12, *for* Menáh *read* Hináh
—— 249, line 14, *for* Zeus *read* Hermes
—— 273, line 12, *for* κονως *read* γωνια
—— 268, line 29, *for* मधुसदं *read* मधुमदं
—— 268, line 30, *for* सिवाजा *read* सिवाजा
—— 268, line 33, *for* मजा *read* मजा
—— 268, line 33, *for* म्यदीम् *read* म्यदीम्.
—— 268, line 37, *for* विनयन्ते *read* विनयन्त.
—— 267, line 27, *for* Mauriya *read* Sunga
—— 286, note, *for* Parichhat *read* Parichhit
—— 293, note, *for* given *read* gives

JOURNAL
OF THE
ASIATIC SOCIETY.

Part I.—HISTORY, LITERATURE, &c.

No. I.—1874.

On the Ruins at Dímápúr on the Dunsirí River, Ásám.—*By* MAJOR H. H. GODWIN-AUSTEN, F. R. G. S., F. Z. S., *&c., Deputy Superintendent, Topographical Survey of India.*

(With two photocollotypes, three photozincographs, and one lithograph.)

The ruins at Dímápúr on the Dunsirí, 45 miles South of Golághát are exceedingly interesting. They have been known and visited by the comparatively few Europeans who have passed through this part of Ásám, but I do not think any notice has been taken of them, save by Major (now Colonel) J. Butler in his book 'Travels and Adventures in Assam', where two drawings are to be found of the entrance gateway and the ruins near, with a short account of the place (*vide* Appendix A). On our return at the end of April from field work in the Nágá Hills, we halted two days at Dímápúr, to make an examination of the place. Of the history of the city I was unable to obtain any information, and no native of the present place can tell one anything reliable. There seems, however, to be a general belief that the town was founded and built by a Kachhárí Rájá, and destroyed by the Nágás from the south. Not having seen elsewhere buildings or sculpture bearing any resemblance to those at Dímápúr, I made a plan of the ruins, with the assistance of Mr. M. T. Ogle of the Topographical Survey Department, and he with Captain J. Butler, son of the above mentioned Col. Butler and Political Agent, Nágá Hills, made on the following day the circuit of the N. W. side facing the outer wall of the town. I have thus been able to give a very fair plan of the whole place. The unpleasantness of this work can be imagined: the dense underwood with the constant showers then

occurring was dripping wet, leeches swarmed, as well as several species of gadfly, and the air was close and smelled with decaying vegetation. The place is a favourite lair for tigers, who find the old, wet, grassy tanks pleasant spots in the heat of the day, and Captain Butler had not long previously lost a grass-cutter who was carried off, while grass was being loaded on the elephants. The plans, with drawings of the pillars, and more detailed examples of the style of sculpture will, I hope, prove of interest to the members of the Asiatic Society, and perhaps lead to a notice of other similar remains in the Ásám valley, with the history pertaining to them.

A general account here of Dímápúr will better convey an idea of the present position of the ruins, before I notice them in detail and shew how great a change has come over the place, since the days when we must imagine it a large and prosperous town, extending with its tanks over nearly two square miles of ground. The present position of Dímápúr is on the right bank of the Dunsirí, where we have a stockade and a few men of the Nágá Hills Police Force. There are a few houses round about it, and owing to the greater security our late occupancy has brought about, the place is gradually increasing in size. The soil in the vicinity is rich, and traces of former cultivation are still to be made out near the large tanks, but are now all overgrown with forest; it is this portion which the Mikirs and others of Dímápúr are now clearing and taking up again. With the exception of these small and recent clearances, all else, the ruins included, is covered with primeval forest larger and denser on the left bank perhaps than the right. The latter is higher than the former near the site of the stockade, and is about 25 feet high, of strong sandy clays. To the east of the stockade is the first tank, about 270 yards square, with a fine broad solid embankment about 25 yards at top, sloping gradually outwards, steeper slightly on the inner side. On the top of the embankment, Captain Butler has built a fine timber bungalow, overlooking the water, a very pretty site, with the distant Nágá hills shewing on a clear day above the great forest trees of the opposite side. A second tank is passed a short distance south on the road to Sámágúting, and is perhaps a little larger in extent; others, Captain Butler informed me, he had seen in the vicinity. Our time did not admit of looking them up, and it is tedious work forcing a way with elephants into the dense jungle, and takes a long time. The old town is situated on the left bank, the lowest. It was bounded on the north by a brick wall, 900 yards long; on the south, by the Dunsirí; the western wall was followed for 950 yards from the N. W. angle, but must be quite 1400 yards up to the river; the eastern wall is 700 yards long, with an obtuse salient angle; the fine solid brick gateway (still standing) is situated on this side, 150 yards from the N. E. angle. The sculpture and stone ruins are about the same distance on the left, after passing through the entrance arch. Numerous small tanks

occur within the walls, now for the most part silted up and overgrown with tall grasses. To explore the place thoroughly would take several days, and would no doubt bring to light other pillars and remains besides those we saw. Broken bricks were observed by me near tank No. 2 (*vide* plan), and it was said that the eastern wall is to be traced south of the river, but statements regarding this differed, and I do not think it does so. But it is a point worth clearing up by any one who may have the time and opportunity.

Dímápúr now stands in a country one might well call uninhabited. The nearest villages in the low country are Mohungdijua, 18 miles N. W., and Borpathar, 28 miles north; the Nágá village of Sámágúting on the first low range is 11 miles distant. To what it owed its former size and importance is difficult to say, excepting we suppose that relations with the hill people on the south were of a different nature in those days. It is quite possible that the hills were then in the occupation of the Kachhárí race. If such were the case, Dímápúr would have been an important place, up to which the Dunsirí is navigable nearly all the year round, connecting it with the large walled town, the remains of which are to be seen at Numaligarh on the same river.

The entrance gateway is a fine solid mass of masonry, with a pointed arch; the stones which are pierced to receive the hinges of double heavy doors, are still in perfect preservation. It is flanked on both sides by octagonal turrets of solid brick work, and the intervening distance to the central archway is relieved by false windows of ornamental moulded brick work. It is curious that no advantage has been taken of the thickness of the walls to construct chambers in it. The building is still in good preservation, but has evidently been shaken on occasion by earthquakes. There is an appearance about the architecture as if Muhammadan artisans had been employed on its construction. All the ornamentation is simple scroll, not a single representation of any bird or beast. Neither is there anything in keeping with the sculptured stones of the ruin adjacent, some on either side of the archway, where the circular rose pattern occurs, of which I have given a drawing. The wall of the places adjacent to the gateway on either side appears to have been higher than the other portion, but its average height now is not more than 6 to 8 feet, having fallen everywhere, and in some places shews only as a bank, the bricks being buried in the vegetable mould of years. The bricks are of all sizes and of flat form, common to all the old brick work that I have met with in Ásám and Bhútan Duárs. However, at Dímápúr, no brick is exactly of the same size. They appear to have been made by pressing the clay between boards to about 1½ inches in thickness, and then cutting it in squares, no two sides of which were truly parallel. The courses were very neatly laid, and the mortar was very white and good. Some of the bricks had been very

sharply out into angles and edges for the cornice work. All the moulded bricks were of very fine clay and well burnt. The clay in the neighbourhood is of a superior kind.

Turning sharp to the left from the gateway, we followed the wall on the outside for about 200 yards, and then turning in through a gap in it, came at about 80 yards on the site of the ruins at their northern end. It is a peculiarly striking place, unlike anything I have seen in India, nor have I ever seen mention elsewhere of ruins like these. When perfect, it must have been an imposing looking place; even now buried as it lies, in the dense gloomy forest, it excites wonder and admiration for the labour expended in transporting such massive blocks of sandstone so far. The nearest point, at which the tertiary sandstone could have been quarried, would be upon the first line of hills, some 10 miles distant, while up the Dunsirí valley it would be much farther: and if they were brought from this side, it is not improbable that rafts might have been employed to bring the stone a part of the distance. It is not easy at first to make out the plan of the place owing to the underwood, but our Khási coolies soon cleared paths about the place and opened it up.

The carved pillars, the most distinguishing feature of the ruins, are arranged in two rows in front of what must have been a long sort of corridor. Whether this was enclosed in any way, or divided into compartments by mat-walls, is impossible to say, neither is it quite easy to understand the manner in which it was roofed, though in my drawing it is shewn how I imagine this was done. The highest pillars and highest portion of the covered part or corridor are in the centre and diminish on either side; the pillars at the southern end are certainly older, ruder, and of coarser make than those in the centre or north, and the distance between the two rows of pillars is narrower at the south end. The pillars are all of one general pattern, and remind one much of gigantic chessmen. What they are intended to represent is difficult to say; some would perhaps set them down as a form of lingas; but may not their origin be sought for in the very widely spread custom in this quarter of India of erecting rough stone monuments, and may not the custom have taken the form of these carved pillars, brought into their present position with such enormous expenditure of labour by a population, lowlanders, richer and more civilized than their mountain neighbours, but with whose customs and superstitions they assimilated. The tallest pillar is about 15 feet; the smallest at the south end, 8 feet 5 inches; a great number, 12 to 13 feet. The diameter of one of the largest was 6 feet. No two are precisely alike in the minor ornamentation, but all are of one general form, large semi-circular tops with concentric foliated carving below on the shaft. There is seen (*vide* Pl. V, bottom) what may possibly be intended for a spear head; if it be such, it is the only object represented. However

in the V-shaped supports of the corridor, animate objects (*vide* Pl. VI) are introduced, and the elephant, deer, dog, duck, peacock and polyplectron or pea pheasant can be made out; but, worthy of remark, not a single human form not even a head. The lotus is evident in all the carved work, and there is a general primitiveness of design which is very apparent. The simple circle within circle, more or less elaborated, is the distinguishing type of the sculptured work. The only instance of carving I know on the monoliths of the Khási Hills, is this simple circle with petaliform pattern. The old temple at Nimaligarh has such a circle carved on the huge slab that once roofed the single centre chamber, but in other respects there is no similarity of design. The scroll patterns of Nimaligarh shew an advanced style of Hindu art, are very intricate and laid out with mathematical exactness, and the figures are nearly all men and women, most obscene in their character, all cut in the hard granite of the Mikir Hills. I regret that my time was too limited, to make a plan of this temple, which when perfect must have been a very striking and well proportioned edifice. Even as it was, for the short look at the place, I am indebted to the courtesy of the acting manager of the tea plantation close by, who kindly lent an elephant, and went out to the ruin with me.

The V-shaped supports or pillars are unique, at least to me, and from measurements of the broken portions appear to have been longer armed on one side than the other, and those in the front row a little taller than those at the back. This was no doubt to carry the roof in a regular slope outwards and to the rear. A mortice has been cut on the top surface of each arm, and probably carried a connecting piece from one V to the other. This was probably of stone, from the size of the mortice. I could not find any block that corresponded with such. There is no doubt that stones have been removed. It is perhaps questionable whether this was a temple at all. I am inclined to think that it was the site of a great market place or "Nath," from its position first inside the gateway, and also from the general appearance of the place. The covered corridor would have very much the appearance of the long-roofed sheds, run up in many paths during the rains in this part of India (where bamboo and thatching grass are plentiful and close at hand), the roofs slightly sloping to the back. If the temple were Hindu or Buddhist, we should have had the form of some deity introduced somewhere in the sculpture. I think it, therefore, more likely that this was a town of an aboriginal race (old Kachhári ?), who would have had a simple demon worship and no idol forms, as we find the case with races of this form of religion at the present day The idea of a large bazar would very likely enter the minds of a large colony at Dímápúr; and the setting up of the stones would have been carried out at the time, as an act of propitiation or of handing down the memory of its foundation to posterity;

the same reason for which individuals of certain Nágá tribes erect stone monuments at the present day, not 20 miles distant. There was certainly no back or front side to the corridor in the strict sense of the term, for the V-pillars are carved on both faces and on the lower or outside face of the arms. To the west of this edifice, and parallel with it, runs a broad shallow ditch, dry in the cold weather, and on the edge of it, opposite the centre of the corridors, stands a large isolated pillar now much broken, skirting an old tank; and about 150 yards further, another isolated pillar is found, the largest in the place, being 16 feet 8 inches high and 23 feet in circumference. These great solid masses of sandstone (which is very soft when first quarried) must have been brought in and set up in the rough and then carved, or they would have been much damaged in getting them up. In this largest pillar such is evident; the original mass did not admit of its being cut with perfect curve, and here and there the concentric rings of carving follow into the natural and original indentations of surface. The gradual rise of land surface with probable sinking of the stones had hidden the sculptured portions for more than a foot of one examined. Some of the pillars have been brought down by falling trees, but I think an earthquake has had its share; for one of the corner V-supports has been twisted quite out of its original position (*vide* large plan) from west to east, 90 degrees, the weight of the arms of those on either side falling in contrary directions would have aided this. The sketches I have attached to this paper with the drawings of the pillars as they now appear will, I trust, give some idea of the style of architecture of these curious old ruins which are fast disappearing with the rapid growth and damp of the surrounding forest.

On the History of Pegu.—*By* Major General Sir Arthur P. Phayre, K. C. S. I., C. B.

(Continued from Journal, Part I, for 1873, p. 159.)

Mahá Upa Rádzá, the eldest son of the deceased emperor, burnt the body of his father, on the fifth day after his death, with the funeral ceremonies used for a Tsekya waté (Chakrawartti), or universal monarch. The bones were collected and cast into the river at its mouth. He then declared himself his father's successor, and appointed his own son Mengkyítswá, Upa Rádzá. He is in the Taláing history styled Nanda Bureng. The army which had been sent to Arakan was at once recalled. The king of Siam, Byanarít, came it is said to Hanthawati, and did homage, as did other tributary kings. But the king of Ava, uncle to the Emperor, did not appear, and his daughter, who was married to the Upa Rádzá, complained

to her father of being neglected and degraded. The king of Ava now entered into communication with his brothers the kings of Táungú and Prome, and also with the king of Zimmé, to sound them as to how far they would support him against the young emperor. They at once disclosed the intrigue. The emperor suspected that many of his nobles and officers had joined in a conspiracy against him, and thirty of them with their wives and children were burnt as traitors. The Emperor now determined to march to Ava, and was joined by the kings of Prome and Táungú with their armies. Advancing by the latter city, the emperor reached Pán-wa in May, 1584. The battle which followed, the Burmese history represents rather as a duel between the uncle and nephew, than as an action between two armies; while a contemporary European authority seems to intimate that after the personal encounter between the two leaders, a great slaughter of the Ava army occurred. The king and the emperor, each on his war-elephant, fought desperately, and had a select body of supporters who joined in the conflict. But the two chief antagonists appear to have singled each other out. The victory depended on the staunchest elephant, and though the emperor's fell exhausted, yet a fresh one being supplied, which he forthwith mounted, the victory was secured to him. The king of Ava fled, and escaping from the field, entered the Chinese territory, where he died soon after. The emperor carried away his uncle's family to Hanthawati, and appointed Máung Setyá, a son of the Emperor Tabeng-shwé-htí, to be governor of Ava. He died not long after, and Meng-ré-kyau-tswá, a younger son of the Emperor, was made tributary king.

During the contest near Ava, the conduct of Byanarít, king of Siam, was at first suspicious and then openly hostile. The Burmese and Taláing histories leave it doubtful what family Byanarít belonged to, but this is made clear by the history of Siam. That history, as related by Pallegoix and quoted by Sir John Bowring, agrees in the main with the history of Burma regarding the great struggle between the two countries during about fifty years in the sixteenth century; but differs considerably as to the dates of some events. The first and unsuccessful siege of the capital Yuthia (Yodayá) by Tabeng Shwé-htí, according to the Siamese history, took place in A. D. 1543. This event in the Burmese and Taláing histories is stated to have occurred in 1548-49. The next invasion of Siam was by Bureng Náung, and took place according to the Burmese history in A. D. 1563-64, but by the Siamese history in 1547-48. On this occasion the white elephants were taken, and the king of Siam was carried away, his son Brámahin being made tributary king. The Siamese history states that, in 1552, the king abdicated in favour of his son. This event probably answers to the statement in the Burmese history of the king while in captivity at Pegu, becoming a Rahán about the year A. D. 1568. He would thus neces-

sarily vacate the throne in the opinion of his own subjects. After this, he was allowed by the emperor of Pegu to go to his own country as a pilgrim. But there he threw off his monk's frock, and excited a rebellion which led to the second siege of Yodayá by Bureng Náung in 1569. During this, the king, that is he who had formerly abdicated and become a Rahán, and who is called Brátha-di by the Burmese, died. His son Brá-ma-hin, called Mahin tha-ra-thi-rát in the Siamese history, succeeded him, but was forced to surrender the city, in A. D. 1555, or fourteen years earlier than the date given for the same event in the Burmese history. This king was also carried off to Pegu, but the Siamese history states that he died on the way. The Burmese history is silent on this point, and it is not improbable that he was put to death. The emperor of Pegu then, according to the Burmese history, appointed one of the Zimmé royal family to be tributary king of Siam. In the history of Siam, he is called Phrá Thamma raxa thirat, and it is stated that he had formerly been king of Phitsilok. Though appointed to the kingdom by the emperor of Pegu, he was faithful to the interests of his own race; and his son Phra Naret, the Byanarít of the Burmese, at the age of sixteen distinguished himself by his hospitality to the Pegu troops on the frontier. This young prince by the death of his father became king of Siam about the year 1577, A. D., though the Siamese history places that event ten years earlier. Siam now become practically independent. Byanarít is called by the Portuguese the black Prince, and lived until the year 1605, A. D., as mentioned by the Hollander Floris, though the Siamese annals state that he died in 1593.

When Nanda Bureng was collecting his forces to advance to Ava in 1584, he summoned the king of Siam to attend with his army. Byanarít no doubt had designs to establish his own independence, but he appeared to obey the order and entered Pegu by the Tsit-táung route. The emperor was then in the upper country, but the Upa Rádzá, who was regent at the capital, directed the king of Siam to march on Ava. Instead of doing so, he came close to the city, and menaced an attack upon it. Hearing, however, that the emperor had defeated the king of Ava, he retired to Muttama, and carried off from thence a number of the inhabitants into Siam. The emperor at once sent a force against Siam under the Upa Rádzá. The expedition was hastily planned and badly executed. In marching down the banks of the Menám, the invading army was attacked by Byanarít, and forced to retreat with heavy loss. To retrieve this disaster, the emperor himself in the year 1587 led a large army which invested Yodayá. The Burmese history admits that the besiegers were unequal to the task. Thousands died from want and exposure, and the emperor was forced to make a disastrous retreat, returning to his capital in June 1587. The year following, the king of Prome having died, the emperor appointed one of his sons to that kingdom.

The emperor, anxious to preserve the empire unbroken, determined once more to invade Siam, in order to subdue that country. But the large armies which his father had assembled could no longer be raised. The expedition was entrusted to the Upa Rádzá, who marched in November 1590. Nearly the whole of this army was destroyed by incessant attacks from the Siamese. The Upa Rádzá was severely rebuked by his father on his return, and many of the superior officers were put to death. As some compensation for this disaster, the kings of Prome and Ava were successful in an expedition against Mogaung, where the Tsáubwá had rebelled

The emperor once more sent an invading army against Siam under the Upa Rádzá. He succeeded in reaching near to Yodayá, but in a battle with Byanarít, in February 1593, the Upa Rádzá was killed, and but few of the invaders lived to return home. Meng-ré-kyáu-tswá, the king of Ava, was now appointed Upa Rádzá.

Pegu was now utterly exhausted. Discontent was universal, and the emperor, suspicious of every one, became wantonly cruel. The Buddhist monks of Taláing race excited his hatred. Numbers of them he forced to become laymen, and then either exiled or killed them. Thousands of the Mun people abandoned their country and fled, while those caught in their flight were put to death for the attempt. The country of the delta became depopulated, and an attempt was then made to drive down the people from the upper Eráwatí, to till the fertile land of Pegu. But famine and plague raged, and there was no help.* During this calamity, the king of Siam having come with an army to Martaban, the whole Taláing population joined him. He advanced to Hanthawati, but hearing that a force was moving down from Táungu, he retreated to Martaban, and thence to his own country. The king of Prome now rebelled against his father, and determined to take possession of Táungu, the native state of the family. He marched there, but as the Siamese had retreated from Pegu, the king of Táungu set out to return home and recover his capital. His brother of Prome then retired, carrying off all the cattle he could seize. At this time, the younger brother

* The traveller Bernier, writing from Dihlí in 1663 to the minister Colbert, alludes to these dreadful events. Commenting on the internal disorder and the weakness of most Asiatic states, he observes: "To remove the danger of commotion, and put an "end to all fears on that subject, nothing more appears necessary than the measure "adopted by a Brahmin of Pegu, who actually caused the death of half that population "by famine, converted the country into forests, and prevented for many years the "tillage of the land. But all this did not suffice. Even the Brahmin's plan was unsuc-"cessful; a division of the kingdom took place, and Ava the capital was very lately on "the point of being captured by a handful of fugitives from China." The Brahmin of Pegu here mentioned is the "Brahma king of Pegu" of the Portuguese, the Burma king as we now write it. In 1662, a Chinese army did advance to Ava, to demand a fugitive Prince, whom the king of Ava delivered up, pretending to suspect him of hostile designs.

of the emperor, styled Ngyáung Ram Meng, governed the country of the upper Eráwatí with his capital at Ava, and remained faithful to the empire. The emperor by his incapacity and his cruelty alienated all the other members of his family. Even his uncle, the king of Táungu, and his brother the king of Zimmé now followed the rest. The king of Táungu wrote to the king of Arakan, who had become powerful, to join him, and the same year 958, or A. D. 1596, according to the Burmese history, the son of the king of Arakan, styled Meng Khamáung, came with a large fleet, and took possession of Syriam. This town had gradually become the principal port of Pegu, and was the great depôt for foreign produce intended for the capital. The king of Táungu now sent an army against Pegu under his son Nát sheng náung; but it was not until 1598, that he and the Arakanese prince had concerted operations, and invested Hanthá wati. Numbers of the leading nobles and citizens now left the city, and many of them fled to Ava. The emperor's son Meng-ré-kyáu-tswá entered the Táungu camp and was sent off to the city of that name, where the queen, at the instigation of her son, put him to death. The king of Táungu now entered the city and took possession of the palace; the emperor and all his family surrendered themselves prisoners. The city was plundered, and though the Arakanese force does not appear to have participated in the occupation, a portion of the plunder was reserved for them, and a white elephant and one of the emperor's daughters was sent to their camp. The city was taken in December, 1599, and thus ended the reign of the emperor Nanda Bureng, called also Ngá-tsú-dáragá. He and his empress were sent without delay to Táungu.

The king of Siam, Byanarít, hearing of these events, determined to march to Pegu to take his revenge for former invasions of his country. The king of Táungu did not desire to make Pegu the seat of his kingdom. The Talaings were inimical; the country was spoiled, and from the presence of Europeans he felt that he could do nothing without a fleet. He therefore returned to his own country, leaving everything to the prince of Arakan. But he carried off many of the inhabitants of the city, and immense treasures; the Burmese history adds also the holy tooth relic which had been acquired from Ceylon. This relic, it is stated, was some years later taken, when Táungu was captured by the son of Ngyáung Ram Meng, and carried to Ava, where it was enshrined in the Rádzá Mupi-tsúla Zedi. The king of Siam marched on to Táungu, and demanded that the emperor should be delivered up to him. This being refused, he invested the city, but provisions failing he was forced to retreat. Returning to Martaban, he made a Talaing chief tributary king of that portion of Pegu with the title of Binya Dala, and Bya-thabáik was made tributary king of Tavoy. He then returned to his own kingdom. The prince of Arakan carried off from Hanthá wati what-

ever of value remained, and the city was utterly destroyed. Pegu proper seems now to have been ruled by various local chiefs and by the Portuguese adventurers at Syriam.

Nga-náung-dáu, son of the king of Táungu, urged his father to put the emperor to death, as a measure requisite for their own safety. The king replied that what he had done was for the public benefit, and not from hatred to his nephew. The prince then went to his mother, and though she was the sister of the emperor, by her order he was secretly murdered, early in the year 1600. Thus the empire of Pegu, which only forty years before, European travellers had described as the most powerful in Asia except China, was utterly broken up.

It will be interesting now to quote from European authors notices of the events we have summarized from the death of Bureng Náung in A. D. 1581. These events are related by the Portuguese historian Sousa; by Nicolas Pimenta, a Portuguese priest; by Gasparo Balbi, a Venetian merchant traveller; and by Peter Floris, a Hollander. Ralph Fitch, an Englishman, also came to Pegu in 1586 during the reign of Nanda Bureng. He gives a faithful account of the country and people, but says little of public events. He describes the king as keeping great state, and says, "When he goeth to war he goeth very strong. At my being there, he went "to Odia in the country of Siam with 300,000 men, and 5000 elephants." This refers to the expedition of 1587, described in the Burmese history. Balbi, who was at Pegu in 1583, states that he had an audience with the king who received him kindly. This was before the evil days came, which totally changed his disposition. The traveller, however, saw the beginning of his troubles in his quarrel with his uncle the king of Ava. Suspecting that his own nobles were intriguing against him, he had them burnt as traitors with their wives and children, "an eminent and spacious scaffold" being built for the purpose. The Burmese history, diminishing as usual the cruel act of the king when any such is mentioned, says that only thirty persons were burnt; Balbi says "four thousand, great and small," which must be an exaggeration. Still the number must have been very large. "I also," he states, "went thither, and saw with great compassion and grief, that little "children without any fault should suffer such martyrdom." "Ten days "after that I saw the king upon an elephant, all over covered with gold and "jewels, go to war with great courage. He encountered with the king of "Ava, and they two fought body to body, without any hindrance from the "armies." He states that the king of Ava was killed on the spot, which differs from the Burmese account, and that the emperor's elephant was killed. Nicolas Pimenta, whose narrative is translated in Purchas, came from Goa to Pegu in 1597, and remained in the country for a year or two. He relates the principal events in the reign of Nanda Bureng, "of the race

of the Bramas," and how that king, maddened by his misfortunes, commanded his son the king of Ava to bring "all into the kingdom of Pegu "now so destitute of inhabitants; but the aire not agreeing, they brake out "in pushes and diseases." The king of Siam then besieged Pegu. By the "help of some Portugals and Turks the city escaped; but famine succeeded "with a worse siege, insomuch that they killed and did eat each other."

For subsequent events, Pimenta refers to the letters of two Jesuit Fathers, Andrew Bones and Francis Fernandez, who relate the surrender of the emperor of Pegu to the king of Táungu, and the arrival in Pegu of a second expedition sent by the king of Arakan to secure some of the treasures still left in the city. "I went thither," says the Father, "with Philip "Brito, and in fifteen days arrived at Syriam, the chief port in Pegu. It is "a lamentable spectacle to see the ruins of temples and noble edifices; the "ways and fields full of skulls and bones of wretched Peguans, killed and "famished and cast into the river in such numbers, that the multitude of "carkasses prohibiteth the way and passage of any ship.* * * * The "king of Arakan is yet Lord of Pegu, though not acknowledged by those "who fled and hid themselves, and hath delivered Syriam to Philip de Brito, "that the Peguan fugitives might have refuge under Portugal protection."

The narrative of Faria y Souza relates the insane measures of Nanda Bureng after the death of his son, who, as we have seen, was killed in Siam in the year 1593, and which, as already shown, long after attracted the notice of Bernier. "The king of Pegu," he states, "in a rage for the death "of his son, turned his fury against the people, and some days burnt above "ten thousand, throwing so many into the river Ganga* as stopped the "passage even of boats. He forbid them sowing,† which caused such a "famine, that they not only eat one another, to which purpose there was a "public butchery of man's flesh, but devoured part of their own bodies. * "* * This was followed by a pestilence that depopulated the whole "kingdom. The neighbouring princes taking this advantage, fell upon the "king of Pegu, covetous of his treasures. Among them was the Black of "Siam, who retired with the loss of 100,000 men. The king of Táungu "was he that possessed himself of all; he promised life, liberty, and estates "to all that would come over to him. The first that deserted were the "Portugueses and Moors; for some Portugueses are like Moors in matter

* An error as to the name of the Pegu river.

† This interference with agriculture, which is also mentioned by Bernier who appears to have read this account, is alluded to in the Burmese history in a somewhat obscure passage. The crown-prince Meng-ré-kyáu-tswá, about A. D. 1593-94, it is stated, took possession of a large area of rice land, with the object apparently of cultivating it, doubtless by forced labour, under government direction, in order to lower the price of rice. It is admitted in the history that the effect was the very reverse.

" of interest. After them followed a bastard son of the king, whose head " was cut off by order of the king of Pegu's sister, wife to him of Taungu, " saying that he who was false to his father, could not be true to her. * * " * * The king of Pegu in despair delivered himself up to the king of " Taungu, who being possessed of the city and palace, found such treasure " that he made no account of silver and other metals and riches. It is " avouched for truth that he could not remove all the jewels and gold in " twelve caravans, each consisting of 700 elephants and horses. The news " of this treasure drew thither the king of Arakan, who contenting himself " with what he of Taungu undervalued, gathered above three millions, and a " great train of large cannon. The king of Taungu presented him of Pegu " to his sister, and she who having killed his son for betraying him, it was " thought would comfort him, used him reproachfully, and afterwards seeing " the king her husband inclined to mercy, caused him to be beaten to death."

Pegu, but yesterday the seat of a great empire, was thus utterly overthrown. And, strange spectacle, though the king of Arakan had some authority on the coast, no one seemed able or willing to become the master of an extensive country, with a fertile soil and a healthy climate, commanding the outlet of a noble river, and capable of being made a great kingdom. The fate of this land was for the moment decided by the presence of European adventures, who swarmed in Pegu and Arakan. At this time, the king of Arakan was Meng Rádzá gyi, called also Thado Dhammá Rádzá. His predecessors, more than a century earlier, had been tributary, or at least subordinate, to the kings of Bengal ; they had adopted the custom of issuing a coinage, and generally inscribed thereon, in addition to their own titles, the Muhammadan name which each king assumed. In the reign of Meng Phaláung, father of Meng Rádzá gyi, the kings of Bengal had become weakened, and he held Chittagong and the country as far as the Megna river. The Muhammadan name he adopted was Salím Sháh ; which the Portuguese historian has written Xilimixa. He determined to occupy Pegu, but knowing that the Portuguese could command the sea, he was willing to hold it, partly at least, through one of that nation. At this time there was a Portuguese youth who appears to have been a ship boy, and became a menial servant in the palace at Arakan. By faithful service he came to be thoroughly trusted, and was honoured by his master with a title signifying " the faithful or honest one." This is rendered in the Portuguese history " Xenga," and indeed appears in the Burmese history, though in the somewhat contemptuous form of " Nga Zenga." His real name was Philip de Brito and Nicote. He was sent by his master in the year 1600 to hold Syriam for the king, but the Portuguese were to be allowed to live there under their own laws. The king of Arakan reserved his own rights over the country of Pegu generally. The Portuguese historian relates three events

in the following words: "Xilimixa, king of Aracam, who had possessed himself of the crown of Pegu, to express his gratitude to the Portugueses that served him, gave them the port of Siriam, at the mouth of the river of the same name that runs within a league of Bagou, the court of the kings of Pegu. This grant was obtained of the king for the Portugueses by Philip de Brito and Nicote, who most ungratefully proved false to that Prince that had raised him from a vile collier to his favour and esteem. The manner was thus: Xilimixa, confiding in Nicote, was by him persuaded to erect a customhouse at the mouth of that river for the increase of his revenue; and his design was to seize upon it and build a fort there, to give footing to the Portugueses for the conquest of that kingdom." The king built a fort but appointed an officer of his own, styled Bannadala (Binya Dala), to command it, and Nicote determined to take possession of it. This he effected by means of a small body of Portuguese under John de Oliva, Paul del Rego, and Salvador Ribeyro. Nicote then went to Goa to gain the support of the Viceroy to his enterprise. The king of Arakan, afraid to send troops by sea where the Portuguese were masters, marched six thousand men across the mountains to a point on the Eráwatí river, and from thence conveyed them by boat. They were under the command of Bannadala, and were joined by some troops sent by the king of Prome. They appeared before the fort near Siriam, where Ribeyro commanded. He at once boldly issued out and attacked them with a handful of men. Though this attack was successful, yet Bannadala soon received large reinforcements and surrounded the fort. The investment continued for eight months, and Ribeyro determined not to surrender, burnt three ships he had in the port. At length relief was sent by the Viceroy, Ayres de Saldanna, and the investing force withdrew. But when the Portuguese force, which appears to have been principally seamen, and was required elsewhere, sailed from Pegu, the enemy again gathered, and the siege was renewed. This time, however, from some superstitious dread, consequent on the appearance in the sky of "fiery meteor," the besieging army broke up and fled. Ribeyro now took such prudent measures, that the leading men among the Taláings, who only waited for a master, joined him with their followers, and offered to proclaim Nicote as king of Pegu. Ribeyro accepted the crown in his name. In the mean time, Nicote had received from the Viceroy the titles of Commander of Siriam, and General of the conquest of Pegu. He married the Viceroy's niece, her mother being a Javanese, and returned to Pegu with six ships. He at once announced his reception of the kingdom in the name of his sovereign, and entered upon his duties as governor. He repaired the fort, built a church at Siriam, and marked out a new city, which, with prudent management might have become the capital of a great province under the crown of Portugal for many generations.

The king of Arakan wishing to temporize, sent to compliment him, and he returned a rich present to his former master. But this false courtesy on both sides was soon changed to open war. Joined with the king of Táungu, the king of Arakan sent a force under his son Meng Khamáung, with whom were two chiefs, called by the Portuguese Ximicolia and Marquetam. They advanced to the Portuguese town with a fleet of seven hundred small vessels. These were met and defeated by a small fleet under the command of Paul del Rego Pinnero. The Prince Meng Khamáung fled, but was followed by Nicote himself in some fast galleys and was taken prisoner. Nicote, to his credit be it said, treated the prince, to whom he had formerly been servant, with deep respect. "He watched him sleeping," says the Portuguese historian, "holding his buskins in his "hands with arms across, a ceremony used by the meanest with their kings, "in those parts, and himself attended him on all occasions." The king of Arakan entered into communication with Nicote for the release of his son, and appears to have come himself to Pegu for that purpose. From Goa the Governor received orders to surrender the prince without ransom. But with strange inconsistency, after his generous treatment of the young Prince, he demanded a ransom of fifty thousand crowns, on the ground that it was for the expense of the fleet he had fitted out. This led to further hostilities, which are thus related by the Portuguese historian. "The "king of Arakan, justly offended thereat, set out a small fleet against him and "" which was easily defeated, but gave him occasion to enslave 100,000 Chris- "tians and treat them with great rigour; which nevertheless moved not many "of them, though but new converts. Afterwards he combines with the "king of Tangu, who besieges the town with a great army by land, while "he shuts it up by sea, with 800 sail in which he had 10,000 men. Paul "del Rego met him with 80 ships, and failing of the success he had for- "merly, setting fire to the powder, blew up himself and all that were with "him, rather than fall into the hands of the enemy. The siege continued "so long, till the besieged were ready to surrender, when on a sudden upon "some suspicion, the king of Tangu quits the field by night, and he of "Arracam found it to no purpose to be longer upon the sea." This was the state of affairs in the year A. D. 1603.

Nicote now seemed secure in his high position. The Taláing chiefs sought his friendship and protection, and the king of Táungu entered into a treaty, or at least a verbal arrangement, with him. His son Simon married a daughter of the king of Martaban, Binya Dala. But the native histories record with bitterness that all the pagodas round the city of Pegu were dug into, and plundered of their gold and silver images and other treasures. The Shwé Dagun, out of respect, it is to be hoped, to the national feeling, was spared. But the Taláing historian remarks that the foreigners wor-

shipped not this sacred building, nor the holy relics enshrined therein. The chief Budhist monk, therefore, from the gifts of the people prepared a new *hti*, and placed it on the summit of the pagoda with such ceremonies, as in the absence of a native king, could be solemnized. But the people were deeply dissatisfied with the foreign rule, and murmuring said, should this continue long, our race and religion will come to an end. Indeed, the mention by the Portuguese historian of a hundred thousand converts to Christianity, without any explanation of the means by which their conversion was effected, suggests that Nicote in the midst of his worldly strife, vainly thought to strengthen his government, and perhaps to atone for his sins, by pressing Budhists to become nominal Christians.

The history of Pegu now becomes so mingled with that of Burma, that the two can most conveniently be combined in one narrative. A power was rising in the country of the upper Eráwatí, which was destined to avenge the intrusion of foreigners and again to unite the two countries under one crown. Ngyáung Rám Phrá, brother to the Emperor Nánda Bureng, who, as we have seen, was in A. D. 1594 governor in the upper country, reduced it to order from the confusion into which it had fallen on the break up of the empire. The whole country north of Pugán submitted to him. The deposed emperor's son, Meng kyi nháung, who ruled at Prome with the title of Thado Dhammá Rádzá, saw danger to himself from this new power to the north of him. He therefore applied to his uncle, the king of Táungu, suggesting that they should combine against a power which when strong enough, would certainly attack them. This was agreed to, and the king of Prome assembled an army to march on Ava. He went on board his barge of state to move up the river, but was assassinated in the month of October, 1597, by one of his officers styled Rán-náing-tsa. The murderer then put to death all the members of the royal family whom he could lay hands on, and declared himself king of Prome. Some of the murdered king's family fled to Arakan, and one son, Meng-ré-uzaná, to Ava. The king of Táungu, who had set his army in motion to march on Ava, now recalled it, and held it in readiness for service against Hanthawati.

Ngyáung Rám Meng, being thus relieved from the threatened danger, rebuilt the palace, repaired the pagodas and completed the defences of his capital. He also assumed the title of Nú-ha-thú-ra Mahá Dhamma Rádzá. In 1599, he marched against the Shan states of Monyín and Mogáung, the Tsáu-bwás of which had refused to pay tribute. He was obliged to withdraw without effecting his object. The following year, he attacked Ramé-then, which had been occupied by the king of Táungu. This town he took without difficulty. In the year 1601, he was successful in an attack on the Shan state of Ngyoung-rwé. He next marched against Ba-máu, the chief

of which fearing to be taken, fled to the Chinese city of Mháing-tshi. The king followed to the border of the state of Máing-tim, and from thence sent on his son, the Ein-shé-meng, to demand the fugitive. The governor having referred for orders to the Emperor of China, was about to surrender the Tsáubwá, who attempted to escape. He was, therefore, arrested and put to death, or, according to another account, he swallowed poison. His body was then sent to the Ein-shé-meng, and his wife and children were delivered up.

Early in the following year, the king, in gratitude for his great success, commenced to build the foundations of the pagoda, called Káung-mhú-dáu. It was finished and dedicated in the year 1604.* In 1603, Moné was subdued, and the adjoining states submitted. The king then occupied himself in settling the civil administration of the country and reorganizing his army. He next marched to Mogáung, defeated and captured the Tsáubwá, who was put to death, and his family carried off. The states of Momeit, Thi-báu, and Thein-ní were next subdued. On this last expedition, the king suddenly became ill, and seeing his end approaching, charged his son to recover the whole empire subdued by his father, Bureng Náung, and never to be separated from his brothers. He urged him, when he should take Prome, to spare Rán-náing-tsa, who though now ruling in his own name, had removed a formidable obstacle from their path. The king died in March 1605, and the body was brought to Ava, where it was burned with the funeral honours of a Tsekya-waté. His son succeeded him, and assumed the title of Mahá Dhammá Rádzá. He is also styled Anáuk Phet. He completed the pagoda commenced by his father, and placed the *htí* upon it. At the close of the rainy season of 1607, he marched against Prome. The king of Prome had sought support from Arakan, but the expected army had not arrived, and the city was invested. After eight months, it was taken by assault. In obedience to the injunction of his father, the king spared the usurper's life. He and his family were sent to Ava. Before long, however, he was sent to Mogáung, and so is heard of no more. The king's brother Meng-ké-thing-gá-thú was appointed governor of Prome, and the king himself now returned to his capital. There he received presents and friendly messages from the kings of Arakan, of Táungu, and of Zimmé, who felt that a powerful rival had arisen, who might become their master. But their offerings and greetings were treated with haughty disdain by one who now felt himself superior in power to each and all. He was indeed intent on fulfilling the dying charge of his father, and worked incessantly to prepare for the conflict. Early in 1610, he marched with a large army

* Such is the statement in the Burmese history; but if the pagoda five miles distant from Ava on the right bank of the river be intended, there is a great discrepancy in this date and that which appears on an inscription within the enclosure of the pagoda.

against Táungu. The king of that state, who was the son of him who had taken Hanthâwatí twelve years before, at first behaved with courage, and came outside the city to fight the invader. But losing heart, he entered into negociations, agreed to become tributary, and gave up some of his family as hostages. Mahá Dhammá Rádzá then returned to Ava, carrying with him, the Burmese history states, the holy tooth relic which his grandfather had received from Ceylon, and which the king of Táungu had taken from Pegu when he plundered that city in A. D. 1599. The king did not relax in his efforts to strengthen his army, and gathered round him men of influence from Prome and Táungu.

Philip de Nicote and Binya Dála, king of Martaban, knew that the king of Ava only bided his time to attack them. They appear to have entered into secret communication with the king of Táungu, and after making a league with him, then treacherously attacked him. They marched there, plundered the city and burnt the palace. The king they carried off as a prisoner. Nothing certain is known as to the causes of this attack, but it brought the king of Ava without delay against Syriam; and the Portuguese governor, though recklessly aggressive, appears to have been utterly unprepared to resist attack. In the month of October 1612, the Burmese army proceeded down the Eráwati in an immense fleet of boats, and, during December, Syriam was invested on all sides. By the following April, Nicote who was short both of provisions and powder, was forced to surrender. The city was given up to plunder, and the unfortunate Nicote was made prisoner. The Burmese history relates that, after five days, the king called for him and reproached him with his attack on Táungu. He excused himself by saying that he had been called by the king of that city. As Nicote belonged to that hateful description of heretics who destroy pagodas and holy images, he was impaled on a high stake before his own house, so that all might see him, and so died miserably. The king of Táungu was also put to death. All the foreigners of the same race as Nicote, between four and five hundred in number, were sent to the upper country. A few days after the city had been taken, five foreign ships, manned by Muhammadan sailors, arrived. Four of these were captured and one escaped. They were full of firearms which had been sent for the use of the garrison. Afterwards a ship belonging to Nicote's wife arrived from Achin, and was also captured. Binya Dála of Muttama now made his submission, and was allowed to remain there as tributary king, with the title of Binya Dhammá Rádzá. The king of Siam had advanced to Yé, in order to watch events. The king determined to drive him out, and sent his brother with an army. He attacked the Siamese, but was defeated and made prisoner.

As the capture of Syriam marks the downfall of the Portuguese power in Pegu, it will be convenient to quote here the account given by the

Portuguese historian of Nicote's proceedings: "Some of the neighbouring "princes, startled at this success of Nicote, sought his friendship and an "alliance with the king of Portugal. The first that effected it, was the "king of Táungu. Nicote marries his son, Simon, to a daughter of the king "of Martaban, thereby to strengthen himself, and have the opportunity of "gathering more riches. And being now desirous to rob the king of Táungu, "though actually then in peace with him, to colour his wicked design, he "pretends that the king was overcome by him of Ova, (as indeed he was "and made tributary) since the treaty, as if that could absolve him for breach "of faith. In fine, with the king of Martaban's assistance, he fell upon, "took, and robbed him of Táungu, and returned with him and above a "million of gold, without hearkening to the protestations he made of continu-"ing a faithful vassal to the crown of Portugal."

The final catastrophe is related as follows: "Our fortune in Pegu "now declined with the same swiftness it had rise, and it was just a wicked "encrease should have a sudden detriment. The violence committed by "Philip de Brito Nicote on the king of Táungu provoked the anger of the "king of Ova, under whose protection he was. Scarce had he heard the "news, when casting on the ground his gown and veil,* he vowed to the "idol Biay of Degu, he would not enter within his gates, till this quarrel "was revenged. He marched with 120,000 men, having put to sea† 400 "vessels of considerable strength, in which were above 6,000 of those "Moors of noted valour, called de Caperuça, or 'that wear caps.' All that "was without the walls of Siriam he burnt, but met with vigorous opposition "at that place, notwithstanding Nicote was quite unprovided, having "suffered most of his men to go for India, and being scarce of powder as "who had fired the vast quantity of it found at Táungu. In this distress, "he sent a soldier to buy powder at Bengala, and he run away with the "money; and having sent for some to the town of St. Thomas, they sent "him none. Besides, those few Portugueses that were with him, committed "such outrages, robberies, and murders, as seemed to hasten his ruin. For "want of powder there was no firing of cannon; they poured boiling pitch "and oil upon the enemy. His number of men might suffice, having 100 "Portugueses‡ and 3000 Pegues. Nicote sends out three ships against the

* I am not aware of a custom among the Burmese of making a vow by throwing down garments. Nor do the Burmese men now wear what could be correctly described as "gown and veil." The "Biay of Degu," I suppose, stands for Phrá Dagun, now called "Shwé Dagun Phrá," the great pagoda at Rangoon.

† An error probably in translation for the river. The king of Ava came down the Eráwatí.

‡ The Burmese history states that between four and five hundred remained as prisoners when the place surrendered. This number included women and children. The "hundred Portugueses" refer only, no doubt, to European fighting men.

"fleet; in one of them all the men were slain; the two retired with all "theirs wounded. The enemy began to undermine the works, and the "besieged laboured much, but to small purpose. After the siege had lasted "34 days, Nicote sent to beg mercy, but was not heard. He thought to "prevail by the means of the king of Táungu, whom he had robbed of his "crown, riches, and liberty; but the king of Ova understood and was "resolved to punish him. The king of Arakan whom he had so grievously "offended, sent 50 sail to his assistance, which were all taken by the "besiegers. The king of Ova gives an assault, and they fought three days "without intermission. The end of it was that 700 of the besieged were "slain, one Banna whom Nicote had always honoured, having betrayed "him. Nicote was taken, carried to the king and by him ordered to be "impaled, and set up in an eminence above the port, that he might the "better look at it, as the king said. He lived two days in that misery. His "wife De Luisa de Saldanna was kept three days in the river to be cleansed, "because the king designed her for himself; but being brought before, and "exclaiming against him, he ordered her leg to be bored, and that she should "be sent to Ova among the other slaves. Francis Mendez and a nephew "of his were treated as Nicote. Banna demanding a reward, was soon torn "to pieces, the king saying he could never be true to him, that betrayed "the man who had so much honoured him. Sebastian Rodriguez was "cooped up with a yoke about his neck. At first, the king designed not "to spare any of the inhabitants of that place, but growing calm, he sent "many as slaves to Ova. Then passing by Martavam, he obliged that king "to kill his own daughter's husband, because he was Nicote's son, that "none of the race might remain. This was the end of that man's avarice, "who being naked a few years before, was raised to be worth three millions. "He had one when he went to Goa; brought another from Táungu; and "had got at least another since by prizes and trade. The enemy confessed "they lost at that siege 30,000 men. But that it may appear that seldom "any great calamity happens without the help of a woman, it is necessary "to show how Nicote's wife was one of the principal causes of his ruin. "She entertained one of his Captains as her gallant, and perceiving the "Portugueses censured their familiarity, they persuaded Nicote he had no "need of them, which was the reason they were dismissed, and that the cause "of his ruin."

Thus the seat of power in the basin of the Eráwatí was once more fixed in the upper country, and with the capital at Ava; for the successor to the empire of Bureng Náung and the ancient Burman monarchy deemed Pegu to be too much exposed to the attacks of the western foreigners to be his residence.

List of the Kings (or Emperors) of Pegu from the accession of the Táungu dynasty, called by Europeans the Brahma or Burma Kings.

Names or titles of kings.	Commencement of reign.	Length of reign.	Relationship of each succeeding king.	Remarks.
	Year, A. D.	Years.		
1. Tabeng shwé htí, ...	1540	10		Conquered Pegu. Assumed the title of Emperor, having subordinate to him the kings of Ava, Prome, Táungu, and Martaban.
2. Thamin-dwut, ...	1550	three months.		Styled by the Portuguese writers Ximi de Zatan.
3. Thamin-htáu, ...	1550	1		Styled Xemindoo by the Portuguese. He was a son of Binya Rán, No. 15 of the kings of Pegu, descendants of Wareru.
4. Bureng Náung, ...	1551	30		Styled Branginoco by the Portuguese. Was the general of the armies of Tabeng shwé htí, and claimed to be his lawful successor.
5. Nanda Bureng, or Ngá tsú dá-ra-ga, ...	1581	18	Son.	Dethroned and put to death by the king of Táungu.

Essays in aid of a Comparative Grammar of the Gaurian Languages.—By Rev. A. F. Rudolf Hoernle, *D. Ph., Tübingen, Professor of Sanskrit, Jay Náráyan's College, Banáras.*

(Continued from Journal for 1873, Pt. I., p. 108.)

V.—*Essay on the Inflexional Base of masc. and fem. nouns.*

In the former essay the Inflexional base of neuter nouns has been discussed. It has been shown that the *direct form* of the inflexional base of neuter nouns may have a two-fold ending, either in ◌ or in ◌ाँ, ◌ें, ◌ँ, ◌ैं, ◌ूँ ◌ँ; and that the Gaurian ending ◌ represents the Sanskrit (monosyllabic) ending ◌म्, and the Prákrit ending ◌ं; whereas the other Gaurian terminations are contractions of some final Sanskrit or Prákrit *dissyllable*, as Skr. ◌ियम्, ◌अकम्, ◌इकम्, ◌उकम्, or Prák. ◌ीअं, ◌अअं, ◌इअं. ◌उअं; and consequently, that if the Gaurian neuter noun ended in ◌ाँ, ◌ें, ◌ँ, etc., but its corresponding Skr. neuter noun in ◌म, the former cannot be *directly* derived from the latter, but in order to obtain the necessary terminal dissyllable, the base of the Skr. neuter must be increased by the addition of the peculiar Prákrit affix क, and the Gaurian neuter directly derived from the Prákrit neuter, thus amplified from the Sanskrit. Most of the Gaurian neuters in ◌ाँ, ◌ें, ◌ँ, etc., come under the last category; *i. e.*, all except the Infinitives and Gerunds and a few others. In general, the rule may be stated thus: that Gaurian neuters in ◌ are derived from the *general* base common to both Sanskrit and the Prákrit, while the Gaurian neuters in ◌ाँ, ◌ें, ◌ँ, etc., are derived from the *particular* Prákrit base formed by the affix क (see IIIrd Essay, p. 154). Again, as regards the *oblique form* of the Gaurian neuter inflexional base, it was shown that it is merely a corruption or curtailment of the Prákrit organic genitive.

The case of the inflexional base of masc. and fem. nouns in Gaurian is exactly analogous. To prove this will be the object of the present essay. I shall first investigate the inflexional base of the feminine, afterwards that of the masculine.

The *direct* form of the inflexional base of the Gaurian feminine nouns which are derived from a (Sanskrit) base in ◌, may be, like that of the Gaurian neuters, of a two-fold kind, *viz.*, it may either terminate in ◌ or in ◌ै; *e. g.*, *barren woman* is बाँझ (Skr. वन्ध्या) or बाँझी (Skr. वन्ध्यिका), of the base वन्ध्य; *sheep* is भेड़ or भेड़ी, of the base भेड्, etc. These two forms do not always occur in the same word. Very often one form is peculiar to this feminine, the other to that; as, feminines in ◌ are, बात *word* (Skr. वार्ता), लाज *shame* (Skr. लज्जा); खाट *bed* (Skr. खट्वा), भीख *alms* (Skr. भिक्षा) नींद *sleep* (Skr. निद्रा), etc., feminines is ◌ै are, खड़ी *chalk* (Skr. खटिका), घरी

clock (Skr. घटिका), सिट्टी *earth* (Skr. मृत्तिका), etc. Most Gaurian feminines, especially adjective feminines, are of the latter kind.

As regards the form in ए, the principle of its derivation has been already explained in Essay III., the regular feminine of bases in आ terminates in Sanskrit and Prákrit in आ; (the few cases of a feminine in ई may be considered as exceptional; the feminine affix ई being by rule added to all bases consonantal or vocal, not ending in अ). The Gaurian feminine ending ए is a regular phonetic corruption of the (Sanskrit or) Prákrit termination आ, according to Gaurian phonetic law which reduces all Prákrit final long vowels or diphthongs to their constituent vowels. The other Gaurian feminine ending ई, on the other hand, cannot be a modification of the Skr. or Prák. termination आ; for as compared with the Gaurian termination ए, it clearly represents *phonetic increase*, which, if it were the *immediate* resultant of the Skr. or Prák. ending आ, would be contrary to glottic laws. How, then, is the Gaurian feminine ending in ई, which corresponds to the Skr. and Prák. feminine ending ए of bases in ए, to be derived? If we consult the result of the previous enquiry (*viz.*, that the Gaurian neuter ending ए has a Prákrit original ए, and the Gaurian ending एँ, ऐं, etc., a Prákrit original अएं, इएं, etc., or अएं, इए, etc.), we shall conclude that the Gaurian feminine ending ए is a modification of an original Prákrit ending आ, and the feminine ending ई a modification of the Prákrit feminine ending इआ or इया, belonging to Prákrit bases in अअ or इअ. Bases in अअ and इअ form in Sanskrit and likewise in Prákrit their feminine in इका (cf. Panini, 46. 7, 4, 46, 47); e. g., Skr. बालकः, Pr. बालओ *boy*, has fem. Skr. बालिका, Pr. बालिआ; so घोटकः *horse*, Pr. घोडओ has in the fem. घोटिका *mare* which in Prákrit becomes घोडिआ and in Gaurian घोड़ी. If the previous enquiry regarding the Gaurian neuters be correct, it follows, that the Gaurian fem. in ई, which corresponds to the Gaurian neuter in ओं, ऐं, etc., (and masc. in ओ, आ) must be derived from a *particular* Prákrit base in इका, formed by the affix क; while the Gaurian fem. in ए, which corresponds to Gaurian neuters in ए (and masc. in अ), are derived from the *general* base in अ (fem. आ); and again, while the Gaurian final ए of fem. nouns is a modification or corruption of the Prákrit final monosyllable आ, the Gaurian final ई must be a modification of a Prákrit final dissyllable इआ.

This presumption can be shown to be well founded by the following considerations. Just as occasionally in Sanskrit masculine and neuter bases in अक (*i. e.*, formed by the affix क which is of so frequent application in Prákrit) occur, so are also feminine nouns in इका met with occasionally, and all such Sanskrit fem. nouns in इका end in Gaurian always in ई; e. g., Skr. घटिका *clock*, Gaurian घड़ी; Skr. मृत्तिका *earth*, Gaurian सिट्टी; Skr. खटिका chalk, Gaur. खड़ी; Skr. मक्षिका *fly*, Gaurian माखी. Some of these feminine

nouns in ई have alternative forms in इया, clearly showing thereby that the termination of those nouns is a modification of इआ; for the ending इया has resulted from इआ by the elision of क्; इआ first becoming इया in Prákrit, afterwards in Gauṛian (by the Gauṛian law inserting a connecting consonant between hiatus-vowels) इया. E. g., beside खड़ी *chalk* there is खड़िया, beside मुट्ठी *handful* also मुट्ठिया (Pr. मुट्ठिआ, Skr. मुष्टिका). Of these alternative forms the longer ones in इया are merely Prákrit which have been transferred as such into the Gauṛian, while those in ई are the same Prákrit words, only having become *proper Gauṛian* by becoming subject to Gauṛian laws; e. g., take the Skr. खटिका *chalk;* in Prákrit, it becomes खडिआ; next in passing into Gauṛian, the Gauṛian alternative law comes into play, of either inserting the connecting consonant य, or making *sandhi* of the hiatus-vowels. Hence in Gauṛian, it becomes, either by inserting य्, खडिया, which is the *Prákritic* form of the word, or, making sandhi, it becomes subject to the disintegrating action of the further Gauṛian law (explained in Essay III.) of reducing a final long vowel (in the present case आ) to its inherent short vowel (i. e., here अ), whereby it becomes a *proper Gauṛian* word. Thus instead of खडिआ, we have now खडिअ, and now (by sandhi) the final इअ becomes contracted to ई; just as Prákrit पाणिअं *water* is contracted in Gauṛian to पाणीं or पानी; Pr. चोरिअं *theft* (Skr. चौर्य) Gauṛian चोरी, etc. Thus we arrive at the present proper Gauṛian form खड़ी. The truth of this theory (that the fem. termination ई is a contraction of इअ) is born out by the fact, that in the old Hindí of Chand sometimes a final ई is found as a mere compendium scripturae for इअ, as the metre shows; *e. g.*, in the verses

नाग समुह धडरी।
डाडि देवल सुरंग मड॥
थांन थांन नर उडै।
चंद तस उग्गम पाइय॥ Devagiri Prast.

The metre requires eleven instants in the first and third line and the last syllable to be *short;* it is evident, therefore, that उडै is merely as it were a stenographic or modernised writing for उडइ (as, indeed, it is still occasionally written), and likewise धडरी for धडरिअ (or धडरिय). Chand must have chanted उडइ and धडरिअ, forms almost Prákrit, or halfway between the old Prákrit and the modern Gauṛian forms.

While Sanskrit feminine nouns in इका end in Gauṛian always in इ, on the other hand, Sanskrit feminines in आ end in Gauṛian sometimes in अ, sometimes in ई. If we keep in view the fact, that in Prákrit an amplified, but equivalent, or materially identical base is formed by the addition of the affix क, so that Skr. bases in अ are represented in Prákrit by the two equivalent base-forms in अ and अक, and the Skr. fem. in आ by the equivalent

fem. in आ and इआ; it is evident that the Skr. fem. ending in आ becomes in Gaurian आ or ई, according as the Skr. fem. in आ assumes in Prákrit one of the two equivalent fem. forms in आ or इआ (इआ). If the Skr. fem. in आ retained in Prákrit its form in आ, it assumed in Gaurian the fem. form in आ, but if it assumed in Prákrit the feminine form in इआ (इआ), it changed in Gaurian to the form in ई; and if it had in Prákrit either form in आ or इआ, it shows also in Gaurian either form in आ or ई. Hence, e. g., the Skr. fem. मेषा *ewe*, is in Gaurian both भेड़ and भेड़ी; simply because in Prákrit the word भेड़ा was current in both its equivalent forms भेड़ा and भेड़िआ; on the other hand the Skr. fem. वार्त्ता may have been in Prákrit current generally only in the one form वत्ता, and hence appears in Gaurian only in the form बात, but never in the form वाती or वत्ती;* and again all Skr. adjectives (as सत्या true) were in the (colloquial) Prákrit, generally at least, current in the amplified form in इआ (as सच्चिआ *true*); and hence appear in Gaurian generally as ending in ई (as सची).

This theory is clearly proved by a few exceptional forms occurring in High-Hindí. Exceptions, it may be remarked, as a general rule, are like archaic and poetical forms, invaluable for the determination of the origin of grammatical forms, the derivation of which has become obscured. There is a small number of Hindí masculine nouns in आ, which form their feminines not, according to the rule, in ई, but irregularly in इया; e. g. बूढ़ा *old man* (Skr. वृद्धः, Pr. वुड्ढओ) forms its feminine बुढ़िया, not बूढ़ी *old woman*; कुत्ता *dog* has fem. कुत्तिया; पुड़ा *parcel*, fem. पुड़िया; अंगा *coat*, fem. अंगिया; गुड़िया *doll*, etc.† Now बुड़िया, कुत्तिया, etc., clearly stand for the Prákrit वुड्ढिआ (Skr. वृद्धिका), कुत्तिआ, etc. The masculine corresponding to वुड्ढिआ would be वुड्ढओ, which is represented on the one hand in Skr. by वृद्धः, on the other hand in Gaurian by बूढ़ा.. But it is evident that the origin of the regular feminine in ई cannot be different in kind from that of irregular feminines in इया. Their difference simply consists in the degree to which phonetic corruption has gone in either, and the anomaly of those Hindí nouns which have a feminine in इया, is merely this, that while in the masculine they have assumed the *proper Gaurian* form in आ (or ओ, *i. e.* अओ), in the feminine they retain the full *Prákrit* form in इआ (*i. e.* इआ), instead of assuming like the others, also in the feminine the *proper Gaurian* form in ई. It follows, therefore, that the feminine ending in ई is a curtailment of the original Prákrit ending इआ (इया) or इआ; and that all Gaurian

* The reason, probably, was to keep it distinct from the word बाती or वत्ती *light, candle.*

† The Bangálí has बूढ़ी *old woman*; and the low Hindí (Gaṇwárí) has also बूढ़ी, besides बुढ़िया. In the Gaṇwárí every fem. in ई may have an alternative from in इया, to express contempt or emphasis and determinateness; see note on p. 94.—The Maráthi has कुत्ता not कुत्तिया.

feminines in ई, like their corresponding masculines in ओ, or आ, are derived from a *particular* Prákrit base in इआ, corresponding to the masculine अओ and neuter अअं, formed by means of the affix अ.

I have already briefly adverted to the phonetic process, by which the Prákrit termination इआ (or इआ) has become modified or corrupted into the Gaurian termination ई. Though the Gaurian is by no means adverse to the hiatus, when originated within its own sphere; it is, *as a rule*, intolerant towards those cases of hiatus which originated in the Prákrit. There is a most obvious and natural reason for this tendency, without it the language would have destroyed itself. After the Prákrit had thrown out the consonants, the vowels by themselves could not have long retained existence. The only way of preserving the word from complete annihilation was, either to insert consonants for the vowels to lean upon and to be protected by, or to contract them (by sandhi) into consonants or diphthongs (resp. vowels); e. g., the Sanskrit आगतः (*arrived*) becomes in Prákrit आअओ; the form आअआ contracts in Gaurian to आओ, and this again might have been contracted into ओ, and thus altogether frittered away, if this process of corruption were not arrested by the Gaurian through the insertion of the connecting-consonant य्, by which the form आओ is changed to आयो (in High-Hindí आया). Similarly, the Sanskrit उपविष्टः (*sitting*) becomes in Prákrit उअइट्ठो; and to save this almost entire conglomeration of vowels from destruction, the Gaurian makes *sandhi* of the hiatus-vowels, and changes the form उअइट्ठो into बैठो (or बैठा High-Hindí). This Gaurian tendency comes into operation on the Prákrit feminine termination इआ. Sometimes the Gaurian inserts the connecting-vowel य (thus इया); in that case, the semivowel protects the two vowels इ and आ, especially the final आ, which would otherwise be reduced to अ (by the other Gaurian law of shortening finals). In this way originated those Gaurian feminines which end in इआ; and their manner of origination explains why in their case the *Prákritic* form of the word has been preserved (instead of the *proper Gaurian* form). Generally, however, the Gaurian has recourse to the other method, of making *sandhi*. First, the final Prákrit आ is reduced to अ, according to the Gaurian law; next, the preceding इ is contracted with the following अ to ई by sandhi. Accordingly, the Prákrit termination इआ changes to इअ or (with insertion of euphonic य) इय, and then to ई. E. g., Skr. खटिका *chalk* becomes in Prákrit खडिआ, and in Gaurian either खड़िया or (first खाड़इअ, finally) खड़ी; or again, Sanskrit कृता *done* becomes in Prákrit किआ; in Gaurian first किअ (किय), finally की. That this is really the way in which the Gaurian feminine in ई originated, is proved by the fact, that the intermediate form in इय (for इअ) is still very commonly found in the oldest Hindí poetry of Chand, as the following verses may serve to show;

पद्मारी दिय पुत्र पर ।

तिहि पुत्री वर डार ॥ *i. e.*

H. H. पामरी दिई (उस से) पुत्र को । etc.

Sasivrithá kathá XXV, 2 ;

Or नीलवरन वसुमतिय

पहिर आभरन अलंकिय *i. e.*

H. H. नील रंग की है वसुमती ।

मानो भूषण पहनके संवारी उई ॥ XXV, 35.

Or कथा औपि संक्षिप्त किय ।

अब कहत कथा विस्तार किय ॥ *i. e.*

H. H. कथा बोलकर संक्षिप्ता की ।

अब कहता है कथा विस्तार की ॥ ibid. XXV, 41.

These verses contain examples of the feminine form in इय (ईय) ; *viz.* दिय (Skr. दत्ता) वसुमतिय Skr. वसुमतिका (Pr. वसुमतिआ), अलंकिय (Skr. अलङ्कृता, Pr. अलंकिआ) ; किय (Skr. कृता, Pr. किदा or किआ).* The sandhi change of ईय to ई may be considered to have taken place in this way, that as the final Prákrit आ was shortened to अ and finally dropped, the preceding इ was lengthened to ई by way of compensation. This view has in its favour the analogy of other similar cases in Gaurian, where the shortening of the final long vowel is compensated by lengthening a short penultimate vowel. There is, e. g., the case of the Maráṭhí feminine bases, formed by the Gaurian affix ईण, as हत्तीण fem. of हत्ती *elephant.* In Sanskrit the fem. would be हस्तिनी (of हस्ती), in Prákrit हत्थिणी (of हत्थी). According to the Gaurian law, the final long ई of the Prákrit हत्थिणी is reduced to इ ; thus making हत्थिण ; and according to the other Gaurian law this resulted final इ becomes *quiescent*, and is not written ; thus making हत्थिण (just as आग *fire* is written for आगि, कर *having done* for करि, etc.) ; finally by way of compensating these losses, the penultimate short इ is lengthened to

* To the word किय I beg to call special attention. I think it tends to prove my theory of the origin of the Hindí Genitive post position की (का, के) from the participle कृत. See Essay II, pp. 138, 139, where I thought it very probable that such forms would yet be discovered in the oldest Gaurian Hindí of Chand.—The Hindí Genitive position की, though identical in sound, is differently spelled from the feminine किई of the past part किआ ; yet both represent the Skr. feminine कृता. The reason of the difference is this, the Skr. form कृता may assume in Prákrit two forms, with or without the affix क ; *i. e.* it may be either किआ (कृता) or किदआ (= कृतिका). By an identical phonetic process the form किआ turns in Gaurian into की, and किदआ into किई. Now a little comparison of Gaurian past participles with Skr. and Prákrit ones will show, that, *as a rule,* Prákrit past participles, when they passed into Gaurian in their proper sense of a past part., passed into it in the *amplified* (*particular* Prákrit) form made by the affix क. Conformably to this rule, it was the Prákrit from किदआ, which gave to Gaurian the past participle किई, while the alternative Prákrit form किआ sank down in Gaurian to be the post-position or affix की.

ई; thus we obtain the form इलीच or (according to Maráṭhí orthography) इलीच. That this is the true account of its origin is proved by its *oblique form* इलिची (e. g. Gen. इलिची चा), where the form of its Prákrit original re-appears, namely, the originally short इ in the penultimate, and the original vowel ई in the final syllable.* This final ई of the oblique form proves that the inflexional base of the *direct form* originally ended in ई. The case is exactly the same as that of the feminine nouns in आ (like आग, etc.), which have an *oblique form* in ई; and which has been fully discussed in the 3d Essay, p. 159. The oblique form इलिची, namely, is identical with the Prákrit genitive इलिचीस्स or इलिचीस. It follows from this derivation of the feminine affix ईच that it can properly be added only to such nouns in ई as are derived by means of the Sanskrit affix इन्. But it is, irregularly, added also to such nouns in ई, as are derived (as will be proved further on) from a base formed by the affix इक; e. g., मालीच, fem. of माली gardener, and also to nouns in ऊ (as परलीच fem. of परभू) and आ (as वाघीच from वाघ tiger). That this is the true derivation of the feminine affix ईच is confirmed by the Bangálí, which has, e. g., हातिनी as against the Maráṭhí इलीच, वाघिणी, as against the Maráṭhí वाघीच; मालिनी, against the Maráṭhí मालीच. I suspect, however, that the irregularity, just noted, is only apparent; and that we have here two altogether different affixes which though identical in outward form, are widely different in origin. The affix ईच, namely, as added to nouns of a Sanskrit base in इन् (as इली), contains the Skr. fem. affix ई, which by the action of the laws of phonetic decay has been altogether lost, while the remainder इच् is really part of the original base and not any affix at all. On the other hand, the affix ईच, as added to the other nouns, contains probably the Sanskrit feminine affix, आनी (as इन्द्राणी feminine, *i. e.* wife, of Indra), of which the final ई has also been lost, while the remaining vowel ई (i. e. ईच minus च) is a modification of the original vowel आ; e. g. the feminine of वाघ was probably originally वाघाणी, in which form the vowel आ, perhaps under the influence of the final long ई was changed to इ (compare इका the feminine corresponding to the masculine affix अक); hence the Bangálí वाघिणी; again the final इ, as usual, was reduced, and on the other hand, the penultimate इ lengthened to ई, thus arose the Maráṭhí वाघीच. Some confirmation of this theory may be found in the fact, that while such Bangálí nouns as कामार *blacksmith* form a fem. कमारनी (the Sanskrit equivalent of which would be कर्मकाराणी *wife of a black smith*), corresponding Maráṭhí words as लोहार *blacksmith*, form a feminine लोहारीच.†

The Gaurian fem. ending ई, as we have now seen, is a modification of the Prákrit fem. ending इआ (Sanskrit इका). This fem. termination इआ

* The penultimate इ reappears because the reason for its lengthening no more exists.

† It may be noted that if in these feminines, in which the penultimate has been lengthened in Maráṭhí, the antepenultimate is a long vowel, it is generally shortened;

corresponds to a masculine termination ओ in Prákrit, ओः in Sanskrit, and to a neuter termination ओं in Prákrit, ओकम् in Sanskrit. That is, the base-termination ओअ is weakened in the feminine to ई अ. It has been already stated in Essay IV, that the base ओअ may be modified not only to ई अ, but also to ओअ. A few instances of the latter modification occur already in Prákrit, as regards the masculine and neuter;* but as regards the feminine, it is both in Sanskrit and the literary Prákrit almost an exclusive rule to admit only the modification into ई अ. But in Gaurian, the modification into ओअ is not uncommon, and we may conclude from this fact that it was probably a modification peculiar to the vulgar or colloquial Prákrit (as opposed to the more artificial scenic Prákrit). For we must refer all Gaurian feminine nouns in ओ to this base in ओअ. Their termination ओ is the *proper Gaurian* modification of the Prákrit ओआ or Skr. ओका, exactly as Gaurian termination ई is the modification or corruption of the Prákrit termination ई आ, Skr. ई का. For the Prákrit termination ओआ may become in Gaurian either, by inserting the connecting vowel व, ओवा; or, by making *sandhi*, it may become in the first instance ओअ, and finally ओ, the present form. Feminine nouns, terminating with the first of the two forms ओवा, are, as we shall see later on, very common in Gaṇwárí Hindí, e. g. जोड़वा *wife* besides जोड़; etc. The second of the two forms ओ occurs, as the termination of many feminine nouns, in Low and High Hindí, and in all other Gaurian languages; e. g., *sand* is in Gaurian बालू, in Sanskrit it is बालुका, in Prákrit बालुआ; the Gaurian reduces the final आ of the latter to अ, and then contracts (by sandhí)† the preceding उ with the final अ to ओ; thus giving us बालू the present Gaurian form. The process is in every respect like that by which the feminine termination ई is formed by the Gaurian (see above, p. 26). Again *leech* जलू; in Sanskrit it is जलौका; in Prákrit जलुआ, which changes in Gaurian through the intermediate form जलुअ to जलू. Again *bear* भालू, in Hindí masc.; but in Maráṭhí also feminine (see Manual, p. 36. e.); in Sanskrit it is भल्ल or, with addition of the affix क, भल्लक or भालक, and in the low form भल्लुक or भालुक; all these forms occur; the fem. of them would be भालिका or भालुका; the latter would be in Prákrit भलुआ, in the intermediate form

e. g. ठाकुरीण feminine of ठाकूर not ठाकूरीण; परिटीण feminine of परीट; चतितीण feminine of चातीत; मरड़ीण feminine of मरुड़; राजपुतीण feminine of राजपूत, etc. See Dadoba Pandurang's Mar. Grammar, pp. 36, 37. The reason, no doubt, is that the antepenultimate is not an originally long vowel, but only a Gaurian formation.

* See note 5, p. 105, in the 2nd Essay; Journal Asiatic Society, Bengal, Vol. XLII, Part I, 1873.

† The sandhi of उ + अ to ओ may also be explained, like that of ई + अ to ई, by the lengthening of उ to ऊ as a compensation for the shortening and quiescence of final अ.

भलुच्च; and thus becomes in Maráṭhí भालू. Again, *palate* is ताळू or टाळू, masc. in Hindi, but fem. in Maráṭhí. In Sanskrit it is तालु which is neuter; but there is a bye-form made by the affix क and this is also feminine, *viz.* तालुका; in Prákrit it becomes तालुआ, and in Gaurian, through the intermediate form तालुच्च it becomes ताळू or टाळू. Again *chalk* is Sanskrit खटिका, in Prákrit it is खडिआ, but also खडुआ; for both forms occur as the bases of Gaurian formation. While the Hindí takes the form खड़िआ, and from it derives its form खड़ी, the Maráṭhí takes the form खडुआ and from it derives the form खडू.

From what has been said regarding the origin of the feminine nouns in ई and ऊ, it follows that these terminations are *purely Gaurian* formations. With this agrees the fact that all feminine nouns in ई and ऊ belong to the *proper Gaurian* element in all Gaurian languages, in other words, do not admit of an oblique form. Only the Maráṭhí presents a very few exceptional cases of feminine nouns in ऊ, which have an *oblique form* in ए. They are the following thirteen nouns, (see *Manual*, p. 36), बाऊ *woman*, ऊ *louse*, जळू, *leech*, जाऊ *sister-in-law*, टाळू *palate*, तालू *forehead*, दाऊ *spirits*, पिस्सू *flea*, पेंडू *coil of rope*, भालू *bear*, वालू *sand*, सासू *mother-in-law*, सूं *needle*. The probable origin of the final ए of the *oblique* form of feminine nouns, I have already explained in Essay IV. Assuming that explanation to be correct, the *oblique form* in ए of those exceptional feminine nouns in ऊ easily explains itself from the Prákrit. E. g., to वालू *sand* corresponds in Sanskrit वालुका, in Prákrit वालुआ. Gen. of वालुका is वालुकायाः, in Prákrit वालुआए. The latter form would change successively to वालुअए, next to वालुए, finally to वाळे, which is the present form. Again, जळू *leech* is in Skr. जलौका., Prákrit जलूआ; the Gen. is Skr. जलौकायाः, in Prákrit जलूआए, and this would change successively to जलूअए, next to जलूए,, and finally to जळे which is the present Maráṭhí *oblique form* of the word.

On the other hand, as regards feminine nouns in इया and उवा, this termination has much more the character of a Prákrit formation; still in the Hindí-class Gaurian languages which, as has been shown in Essay III, possesses only a very small number of *Prákritic* nouns, (*viz.*, the masculine nouns in आ), all the feminine nouns in इया or उवा belong to the *proper Gaurian* element, and do not admit of an *oblique form.* As they have retained their *direct form* their Prákritic character almost entirely, (the Gaurian having added merely the euphonic connecting consonants य, व), there can be no doubt that they would have an *oblique form* in ए in Maráṭhí. In Hindí, as I have just remarked, they are very common. In the Gaṇwárí (or Low Hindí) especially, they may be heard as bye-forms of any feminine nouns in ई or ऊ, and there they are very frequently used; they are always employed when the thing expressed by the noun, is referred to as something *known* and *determined* (their use being analogous to that of the

articled noun); they are also employed to express contempt, or affection, or diminution.*

For this latter purpose only (with a very few exceptions enumerated above, as कुत्तिया *bitch*, बुढ़िया *old woman*, etc.), they are used in High-Hindí, where, therefore, their employment is very rare. E. g., जोा वा, the bye-form of जोरू *wife*, is used in the Gaṇwári in the place of जोरू, but otherwise, if used at all it expresses a *contemptible* wife? So in High Hindí, लाठी means a *large stick*, a *pole*; but लकड़िया a *small stick*, and so forth. In erotic poetry, as may be expected, these feminine forms are very common; e. g., in the following verse of Aḳhtar,

मान फेर लिया करके बतियाँ ॥
अब काहे न लगावत रे छतियाँ ॥
गईं तेरे फिराक में नींद अखियाँ
कहो कैसे कटें तुम बिन रतियाँ

Here बतियाँ, रतियाँ छतियाँ, are the dimunitives (in the plural) respectively of the feminine nouns बात *word* (Prákrit वत्ता or वत्तिया), छाती *breast* (Prákrit छत्ता or छत्तिया); रात *night* (Prákrit रत्ती or रत्तिया).

I proceed to the examination of the inflexional base of the masculine nouns. The *direct form* of the inflexional base of masculine nouns in अ, like that of the feminine and neuter nouns, may end in a twofold wise; *viz.* either in अ, as दूध *milk*, घाम *heat*, etc., or in ओ, as किया *done*, घोड़ा, *horse*, etc. In High Hindi, Maráṭhí, Panjábí, and Bangálí, the termination ओ

* Of these three meanings that of *diminution* is no doubt the original one, as it easily explains the other two. For general experience shows that in all languages, nouns are used in preference, in their diminutive form, to express affection or contempt. Moreover, it may be observed that in the speech of the uneducated, the diminutives are frequently used *without any particular meaning attached to the diminutive form of the word.* If with this fact be put together the further fact, that in Sanskrit diminutives (expressive of affection) are formed by means of the affix क, and that Prákrit, the source of the modern vernaculars, is the speech of the uneducated, the frequent, apparently meaningless, use of words formed with the affix क in Prákrit, and the extensive use of nouns in ओ or आ, (ओ) in Gaurian finds a natural solution, at the same time that the theory of the derivation of the Gaurian nominal termination ओ from the Prákrit termination अओ and the Skr. termination अक receives a strong confirmation. As examples of the affix क being used in Skr. to form diminutives of endearment, I may quote the following from the Uttara Ráma Charitra,

देव त्वर्यतां। सभावयतु देव्याः पुचकं देवः, i. e.
king haste thee, deliver the queen's pet.
or देव सोदरव विजयिना देव्याः पुचकेन, i. e.
king rejoice over the victory of the queen's *pet.*

Here पुचक is used with reference to an elephant, and alternates with the other word of endearment वत्स which is also applied to the elephant occasionally. See Uttara Ráma Charitra Act III, pp. 96, 97. See also *Bopp*, Krit. Gramm der Skr. Sprache, p. 327 (under अक and क), 2nd Ed. In the 4th ed., the reference to diminutives has apparently been withdrawn.

appears slightly modified as आ. In the Braj Bhásha it is औ, which is not a mere modification of आ, but as I think (see below p. 37) rather a co-ordinate formation to ओ. I have already noticed in Essay IV. that Sanskrit masculine nouns with a base in अक appear in Gaurian invariably with the termination ओ (or आ), as Skr. घोटकः, Pr. घोड़ओ, Gaurian घोड़ो or घोड़ा or घोड़ा, etc., while Sanskrit nouns with a base merely in अ, appear in Gaurian now as terminating in अ, now in ओ (आ or ओ). And remembering that in Prákrit any base in अ may, without change of meaning, add the affix क, and thus end in अक, we may conclude, that if a Sanskrit masculine noun with a base in अ ends in Gaurian in ओ, it must have previously assumed in Prákrit the base-form ending in अक; while if it ends in Gaurian in अ, it must have previously remained unchanged in Prákrit; e. g., Skr. युगल *pair* with a base युगल (*i. e.* in अ) may assume in Prákrit the simultaneous forms जुअलो or जुअलओ (lit. युगलक: *i. e.* with affix क); the former becomes in Gaurian जोड़, the latter जोड़ो (or जोड़ो). Again, Sanskrit बीज *seed* may be in Prákrit both बीजं, or बीजअं, (बोअअं); the former gives us the Gaurian बीज, the latter the Gaurian बीजा or बिया. There is, perhaps, not a single Gaurian masculine noun in आ (that is, of course, only among those derived through the Prákrit), which does not also occur (at least in Hindí) in the other form ending in आ or ओ or औ. The latter forms very often are only Low Hindí, but in not a few instances both forms are used in High Hindí too; e. g. भरोस and भरोसा *trust*, भाँड़ and भाँड़ा *earthen pot*, भार and भारा *load*, जोड़ and जोड़ा *pair*, पट्ट and पट्टा *titledeed*, etc., etc. On the other hand, in some cases the form in अ is confined to the Low Hindí and that in आ chiefly to the High Hindí, as notably in the part. pres.; e. g., कहता *saying* is High Hindí, but कहत Low Hindí; High Hindí लगता *belonging*, Low Hindí लगत; High Hindí आता *coming*, Low Hindí आवत, etc. So also, as regards the adjectives, the High Hindí generally uses the ampler form in आ; but Low Hindí generally also the shorter form in अ; as Low Hindí बड़ *great*, ऊँच *high*, High Hindí बड़ा, ऊँचा; but सच and सचा both in High Hindí, (Low Hindí साच or साँच) etc.

That the *direct form* in ओ, or आ, or औ, of the inflexional base of Gaurian masculine nouns is derived from the Prákrit nom. sing. of a base in अक, follows also as a result from our previous inquiry into the nature of the direct form of feminine and neuter nouns. For if the feminine termination in ई and the neuter termination in ईं or ऊँ or ऊं of adjectives and of nouns generally, is a modification of the Prákrit termination (resp.) इआ and इअं (or इएं), it follows of necessity that the masculine terminations ओ, आ, औ, corresponding to those feminine and neuter terminations, must also be derived from a Prákrit termination अओ (= अकः), e. g., *high* is in Maráthí ऊँचा, ऊँची, ऊँचें, in Hindí ऊँचा (masculine and neuter), ऊँची (feminine). It is evident that if the Mar. and Hindí feminine ऊँची, is a

modification of the Prákrit उअओ, and the Mar. neuter ऊँचे of the Prákrit उअअं (उअयं); the Maráṭhí and Hindí masculine ऊँचा must be a modification of the Prákrit उअओ. For this is the only Prákrit form, which would yield us a Prákrit feminine उइआ and a neuter उअअं.

This conclusion is confirmed by the fact, that Gaurian masculine bases in ओ or ौ, or आ, and neuter bases ऐं, ाँ, ूँ, etc., have an identical *oblique form; viz.*, ending in आ in Maráṭhí, in ए in Hindí, Bangálí, Sindhí, and in ा in Gujarátí, Maṛwárí, Naipálí. For as the *oblique form* is identical with the Prákrit organic genitive, and as masculine and neuter bases of identical final sound have identical genitives, it follows that Gaurian masculine bases in ा, etc., and neuter bases in ैं, etc., must have the same *oblique form*, if they are derived both from an identical Prákrit base. Now they have an identical *oblique form*, hence they must be derived from an identical base. As regards the neuters in ैं, etc., it has been shown that their (Prákrit) base must be one in अअ (= अक); hence the base of masculine nouns in ा, etc., must also be one terminating in अअ (= अक). E. g., ऊँचा (masculine) and ऊँचे (neuter) have both the *oblique form* ऊँचा; the latter represents the Prákrit form उअअस्सु which is the genitive singular of both उअओ (masculine) and उअअं (neuter). As उअअं is the original of ऊँचे, it only remains that उअओ must be the original of ऊँचा.

The termination ओ is not the only modification of the Prákrit termination अओ. As a rule, when Prákrit has a hiatus, as in the case of अओ, Gaurian either inserts the semivowel व् or य्, or makes *sandhí*. In Hindí both alternatives occur; but the insertion of a semivowel is confined to Low Hindí and old Hindí, while the High Hindí knows only the *sandhí* form. Probably in other Gaurian languages, the forms with inserted semivowels may also be found. In Low Hindí, forms of both kinds occur; such as insert the semivowel व् and such as insert the semivowel य्. The former, as far as I know, occur only in Gaṇwárí, and, probably, in all Low Hindí dialects of its class. But there they are very common; of every masculine noun in ा or आ a bye-form in अवा may be formed. E. g., we may say in Gaṇwárí घाम or घामवा *heat*, घोड़ा or घोड़वा *horse*, and so forth. The two forms घामवा and घोड़वा are *formally* identical; simply because they are both derived from a *formally* identical Prákrit base; *viz.* Sanskrit घर्मः becomes in Prákrit घामो or घामओ, and these become in Gaurian घाम and घामवा resp.; Sanskrit घोटकः becomes in Prákrit घोड़ओ, and this becomes in Gaurian either by *sandhí* घोड़ा, or, by insertions of व्, घोड़वा. The Prákrit words घामओ and घोड़ओ have a *formally* identical base; *viz.* घर्मक and घोटक, formed by the affix क; hence they are also formally identical in Gaurian घामवा and घोड़वा. These ampler bye-forms generally convey the sense of *definiteness or contempt;* and in erotic poetry also of affection; as in the following Baiswárí verses of Aḳhtar:

अरखों मैं तोरे मंडरवा ॥
रचँस रचँस मखे लागूँ पहरवा ॥
इतनी अर्ज मोरी मानो जी अछतर ॥
सात नगद की मैं चोरी पहरवा ॥

Or

मारूं री कहिं कगवा बोले ॥
राजा की अटरिया ॥ कगवा बोले ॥
जियरा डोले रे ॥

Here मंडरवा is the bye-form of मंडर *hut*, (Prákrit मंडहं or मंडहयं); पहरवा bye-form of पहर *hour*, (Pr. पहरो, or पहरओ, Sk. प्रहरः or प्रहरकः); कगवा bye-form of काग *crow* (Pr. कागो or कागओ). It has been already remarked in treating of the feminine nouns in रवा, that the final Prákrit long आ is protected by the inserted semivowel र्. Another instance of this fact we observe here in the case of these Gaṇwárí masculine nouns in वा, where the final आ (for the Prákrit ओ) has evidently been also preserved through the insertion of the semivowel व. We shall have some more occasions to observe this effect of the insertion of the semivowels र् or व्, and to note the fact that an inserted र् or व may protect a final Prákritic long vowel, or diphthong, against the operation of the Gaurian law of *reduction*. It does not do so necessarily. Strictly the law is this: when the semivowel is inserted before the Prákrit final long vowel or diphthong, two alternative Gaurian forms are the result; one in which the final long vowel is preserved, and another in which it is reduced according to the ordinary Gaurian laws. Thus, if in the Prákrit form घोड़ओ the semivowel व् is inserted, we get the two Low Hindí forms घोड़वा or घोड़व. In the form घोड़व, according to a further Gaurian Law, the final अ becomes quiescent, and the result of this change is the vocalisation of व to उ, which उ next combines (by *sandhi*) with the preceding अ to औ; hence घोड़व becomes घोड़ौ. Now these nominal forms in औ are in Low Hindí well known and regular alternatives of the other forms in वा. They may be formed of any noun whatsoever; e. g. राम *Rám*, bye-forms रमवा or रमौ; घर *house*, bye-forms घरवा or घरौ, etc. They must not be confounded with the common Braj Bháshá forms in औ, from which they can easily be distinguished, because the Low Hindí bye-forms in आ are *always* accented on the ultimate, while the Braj Bháshá main-forms in औ are *never* accented on the ultimate, but on the penultimate or antepenultimate; (2), because the Low Hindí forms in आ *always* shorten a long vowel in the penultimate syllable, while the Braj Bháshá forms *never* do so; (3), because the Low Hindí form corresponding to the Braj Bháshá main-form *always* ends in आ (or अ); e. g., Braj Bháshá main-form घोड़ौ *ghórau*, Gaṇwárí main-form घोड़ा *ghórā*; but bye-form घोड़ा ghóraú. It is mark-worthy that the changes of the forms in वा and आ are clearly connected with the accent (that is not the Prákrit accent, but the Hindí

accent, or the stress which is laid on a particular syllable in pronouncing a Hindí word; what in prosody is called the *ictus*). The forms in अवा namely are accented on the ante-penultimate; thus रमवा is pronounced with the airesis or ictus on the first ă and *thesis* on the last ā, but the forms in आ are accented on the ultimate, thus रमौ is pronounced rămaú. The fact is that when the final आ of रमवा is reduced, the accent is thrown forward on to the penultimate, that is, रमव is pronounced rămáva, and if the final ă be quiescent, the form becomes naturally रमौ ramaú, as any one can convince himself by actual experiment.

Instances of the other kind of masculine form, which inserts not the semivowel व्, but य्, into the Prákrit termination अओ (instead of contracting it by *sandhí* into ओ) occur in the Braj Bhásha class of Low Hindí and in Maráṭhí. All the phenomena, which have been noticed in connection with the bye-form in अवा and आ, occur also in the case of these bye-forms in अया; thus, e. g., the Prákrit forms रामओ, with inserted य्, will give the Gaurian form रमया, with the accent on the ante-penultimate (*i. e.*, *airesis* on the first ă, and *thesis* on the last ā), if final आ be retained. But there is an alternative form, in which the final आ is reduced to अ, thus रमय;* here the accent falls on the penultimate ă, and the final अ becoming quiescent, the word becomes रमे ramaí, with the accent on the ultimate े. Both these double forms in अया and े exist in Gaurian. But while the double forms in अवा and आ are both found in the Gaurian Low-Hindí, I believe it is only the form in े which is found in the Braj Hindí, and on the other hand the form in अया appears to be confined to Maráṭhí. The same name, e. g., which in Maráṭhí is रमया (or रम्या as it is customary to write), is in (the Braj) Hindí रमे; again Maráṭhí कन्हया is in Hindí कन्हे (Prákrit कण्हओ, Sanskrit कृष्णकः). I believe it is the custom in Maráṭhí, to suppress, in writing such word-forms, the initial अ of the affix अया and join the य् on to the final consonant of the base; thus राम्य for रामया, बाल्या for बालया, etc. This is merely a peculiarity of writing, which, in this case, is accommodated to the pronunciation; just as in Hindí some people write आग्ना for आगना, etc. In all Gaurian languages a short अ between two accented syllables (one *airesis*, the other *thesis*) is *quiescent;* and of course two different systems of writing may be followed, either the writing may be accommodated to the present pronunciation (as in Maráṭhí in this case), or to the etymology of the word. Perhaps it would be more consistent and more scientific to generally agree to follow the former method. There need be no fear of any obscuration thereby of the etymology of the word. But at all events uniformity should be observed; not some classes of words

* In all these bye-forms the Maráṭhí retains the Prákrit ante-penultimate vowel unchanged, whereas in Hindí it is always shortened.

written by one method and others by another.* In Hindí (that is, modern Hindí), as I have already said, the bye-forms which insert the semivowel य्, appear always as ending in ऐ; as रमै, कहै, etc. But in the oldest Hindí of the bard Chand-Bardáí, the intermediate and transitional form in अय (between अया and ऐ) is the only one which is met with, side by side with the neuter form in अयं, of which examples have been given in Essay IV. Exactly as there are neuters, like नमयं, अम्हानयं, in Chand, so has he also masculine nouns like लोहय *iron* (for High Hindí लोहा), क्रमय *series* (for High Hindí क्रम); as in the following verses—

* If a short अ standing between two accented syllables, is followed by an inserted euphonic semivowel य, then it does not become altogether quiescent, but merely becomes attenuated to the indistinct neutral vowel, out of which all distinct vowels are supposed to have arisen and which is found in all modern languages, and, e. g., in English is generally written *a*; thus while Maráṭhí रामया or Braj रमया is pronounced *Rámyá* or *Ramyá*, the Gaṇwárí रमवा is pronounced *Ram'vá* or *Ramvá*. The observation of this rule, has led me to modify my opinion on the origin of the Maráṭhí Gen. Sing. in या and Hindí in ए, which I discussed in pp. 87 to 94 of Essay IV (J. A. S. vol. XLII, Part I, 1873.). I stated there that the original of those endings might be either एया or अया; and though the latter derivation appeared to be the more natural, I preferred the other, because it seemed to have more evidence in its favour. But the phonetic rule now noticed removes one of the chief difficulties in the way of अया being the original. And I would, therefore, now derive both the Maráṭhí gen. in या and the Hindí gen. in ए from an original form in अया. Thus the Prákrit gen. of सोहयं would be सोनयाह and in the original Gaurian सोनया (for सोनयाह), pronounced *sónayà*, (*i. e. airesis* on o, *thesis* on final à); here according to rule the medial अ becomes *quiescent, i. e.*, the word is pronounced *sónyà* (सोन्या), which is Maráṭhí; next *yá* changes to ए, and thus we obtain the Hindí form *sone* (सोने). Now according to the Maráṭhí custom (as noticed in the text) the quiescent अ is, in this case, invariably suppressed in writing; Mar. writes सोन्या; but just as राम्या is a contraction of रामया, so सोन्या is a contraction of सोनया. On the other hand the fact that the Maráṭhí gen. in या may be spelled either as या or as अया, is also explained by the present rule. For before the semivowel य् the medial अ becomes merely *neutral* or indistinct, and therefore some will write it, others will omit it, according as it is more or less indistinctly pronounced by them. I may add here, another piece of evidence. A learned Maráṭhí (the Rev. Paṇdit Nehemiah Goreh) writes to me: "If the name राम (or any name) belongs to a respectable man, then it is pronounced, as if it had no final vowel. But if it belongs to an inferior person, such as a boy or a servant, etc., then it is pronounced रामा or राम्या. In names of females, if the word ends in आ, then in diminutive forms the आ is changed with ई; as दुर्गा into दुर्गी." Observe that all three forms are identical, diminutives or depreciatives; and derived from Prákrit bases formed with the affix क, which also may have that meaning; now these Maráṭhí forms in आ and ई correspond to the *ordinary* Hindí forms in आ and ई; and, hence, the latter are also derived from Prákrit bases formed with the affix क. These Hindí words, no doubt, have no diminutive meaning; but so have also those Prákrit bases generally no diminutive meaning.

खाडि चंगुर लोचव किजिय ।
सुकर सेखनाजव सिर लिखिय ॥ III, 66.

Again ऋमव सवव विपरीत भव ।
उपखो चंगर वेद ॥ III, 52.

Again ओंकार आदि प्रनम्म भम्म मुखयं वाणीय वंदे पयं ।
सिद्धं चारनचारयं वसुमती खंडीय चरनाचयं ॥ I, I.

Or कोकिल झंकार चंद वन करयं ॥
वर चंचर विरच्चं ।
कपातयं नेव कहवन्ति ॥ I, 18.

The two last verses contain the examples चारनचारयं (for High-Hindí चारनचारा), and कपोतयं (for High Hindí कपोत, plural.)* The discussion of the oblique form of these masculine nouns in चव and चया I shall defer, till after we have passed in review all Gaurian masculine nouns, the final of which is formed by inserting a semivowel before the Prákrit termination चो.

It has been stated that the more usual way of treating the Prákrit masculine termination चया is not to insert the semivowel च or व, but to contract the words. This contraction (or sandhí) is made in a two-fold manner: either the vowel च is dropped and thus the termination चयो reduced to यो, or the vowel च is retained and thus चयो contracted to चौ. The latter method is peculiar to the Braj Bháshá; the former is common to the other Low-Hindí dialects of that class. In High-Hindí both these harsh vowels (or diphthongs) are modified to the more agreeable long vowel चा; e. g., *gone* is in Braj Bháshá गयो, in Low-Hindí गयो, in High-Hindí गया, for Prákrit गचयो, Sanskrit गतकः; again Sanskrit कथितः or amplified कथितकः *said* becomes in Prákrit कहियचयो, and in the Braj Bháshá कह्यौ, in Low-Hindí कह्यो, in High-Hindí कहा; or Sanskrit उचकः *high* becomes in Prákrit उचयो, in Braj Bháshá ऊँचौ, in Low Hindí ऊँचो, in High Hindí ऊँचा. This seems to me a truer and simpler explanation of the Braj Bháshá termination चौ than that of taking it as a mere provincial broader pronun-

* The final *anuswára* in these two instances indicates, I believe, the plural; just as in Maráṭhí the addition of a final *anunásiká* is indicative of the plural; e. g. घराचा *of a house*, but घरांचा *of houses*. If the semivowel च् be not inserted, but sandhi made, we should have कपोतयं, contracted कपोतां, a form which also frequently occurs in the old Hindí of Chand, and is still the usual form in Maṛwárí; and which in the modern Hindí is modified to कपोतों. The final nasal of these plural forms is merely a deterioration of an original final न् which is still preserved in the modern Low Hindí dialects; e. g.,

रन कही सब वनवसियन सिख मोहि तुम पै पठायो है ॥ Rájaníti, p. 30.

and occurs frequently in the old Hindí of Chand, beside the plural forms in चयं and चां; e. g.,

सम ब्रह्मरूप या सबद कउं ।
कौं उचिट्ठ कविवन कहैं ॥ I, 7.

i. e. "why should poets call it a réchauffé."

ciation of the common Low Hindí termination ओ. For the Prákrit termination अओ of which both औ and ओ are modifications, contracts, as any one can test himself, if quickly pronounced, to औ, and not immediately to ओ; and if it is necessary to consider either ओ or औ as a modification of the other, and not both as direct modifications of अओ, it appears to me the form औ must be considered as the more original of the two, as the immediate modification of the Prákrit अओ, and ओ, as a modification of औ.

In some Gaurian nouns the Gaurian termination ओ, the contraction of the Prákrit termination अओ, is further reduced to the simple vowel ऊ; as in तट्टू *pony*, वटसरू *traveller*, भट्टू *rice*, याचकरू *traveller*, and others. This is apparent from the fact that in Maráṭhí these nouns have an *oblique form* nouns in आ which is identical with the *oblique form* of masc. nouns in ओ or आ in Gujarátí, Naipálí, Maṛwárí, as will be shown below. It is also proved by the fact, that some of these masc. nouns in ऊ are also used, in Maráṭhí, as neuter nouns in ऊं, as तट्टूं neuter or तट्टू masculine; and it has been shown in Essay IV that the neuter nouns in ऊ which have, in Maráṭhí, an *oblique form* in आ, are derived from a Prákrit original in अअं (= अअं); hence it follows that their corresponding masculine forms must be derived from a Prákrit original in अओ. E. g., assuming that वाटसरू stands for an original Gaurian वाटसरो or वाटसरा, and this for the Prákrit वाटसरओ, what follows? The gen. of वाटसरओ would be वाटसरअस्स or वाटसरआस or वाटसरआह; the latter, according to Gaurian rule of sandhi, would contract to वाटसरा (originally वाटसराह), which is actually the *oblique form* of वाटसरू. Hence we may argue backwards that वाटसरू *is* a contraction of वाटसरओ. Similarly, Prákrit भट्टओ (Sanskrit भट्टकः of भट्ट) a *title of brahmans*, has genitive भट्टअस्स, or भट्टआस or भट्टआह; contracted in Gaurian भट्टा (originally भट्टाह), which is the oblique form of भट्टू (see Dadoba's Mar. Grammar, §. 223); it follows that भट्टू is a contraction of भट्टओ.* There are a few other nouns of this class (*viz.* ending in ऊ, which ऊ is a contraction of the Prákrit termination अओ), which have an oblique form in वा or अवा. This is to be explained thus: that instead of contracting the Prákrit genitive termination अआह by sandhí, the euphonic semivowel व् has been inserted. E. g., Sanskrit श्यालः or amplified श्यालकः *brother-in-law;* Prákrit सालओ; Gaurian first सालो or साला (Hindí), next (reduced) सालू (Hindí) or साडू (Mar.). The gen. of the Prák. is सालअस्स or सालआस or सालआह; the latter becomes in Gaurian, by inserting euphonic व्, साडवा (originally सालवाह) or साडवा, which is actually the *oblique form* of the Maráṭhí word साडू, and thus proves the identification of साडू with the Prákrit सालओ. Again, साँकू *bridge* (for original Gaurian साँको or साँका) is a contraction of the Prákrit संकँओ or संकमो, Skr. सङ्क्रमः; the gen. of the Prákr.

* The Mar. भट्टू is a diminutive term of contempt; just as the Skr. भट्टकः

is संकँचस्सु or संकँचास or संकँचाह; the latter becomes in Gaurian साँकवा* or साँका (originally साँकवाह), which is the present *oblique form* of साँकू. As noticed already, the medial च before the व् has a neutral sound, and hence the spelling varies; sometimes it is written, sometimes it is suppressed. As will be shown afterwards, Maráṭhí possesses also some other masculine nouns in ऊ which have an *oblique form* in वा, which, however, are derived from Prákrit originals in उओ (= उवो); and thus they differ from the masculine nouns of which we are treating here, whose *oblique form* ends in आ, and which are derived from Prákrit originals in अओ. There is a further class of Maráṭhí masculine nouns in ऊ which have no *oblique form* at all. Now since the reduction of the Gaurian termination ओ (for Prákrit अओ) to ऊ is an *altogether Gaurian one*, while the contraction of the Prákrit termination उओ to ऊ is partly Prákritic,† I think, we may conclude that all Maráṭhí masculine nouns in ऊ, which do not admit an oblique form, are derived from Prákrit nouns in अओ (or original Gaurian nouns in ओ), and not from Prákrit nouns in उओ.‡

The oblique form of the Gaurian nouns in आ (ए or ऐ) ends either in आ or in या or in ए. The termination आ of the *oblique form* is common to the Gujarátí, Naipálí, and among Low-Hindí dialects, to the Gaṇwárí and Maṛwáṛí. The termination या is peculiar to Maráṭhí; and the termination ए to Sindhí, Panjábí, High-Hindí, and most Low-Hindí dialects of the Braj Bhásha class. E. g., घोड़ा or घोड़ो *horse* has in Gujarátí घोडा नो, in Mar. घोड़्या चा, in Hindí घोड़े का. The origin of these *oblique forms* has been fully discussed in Essay IV. Whatever has been said about the neuter *oblique forms* in आ, या and ए, applies of course, equally to the masculine *oblique forms; viz.*, that they are derived from the Prákrit genitive of a base in अक, ending in अअस्सु; so, however, that the *oblique form* in आ is derived from the Prákrit genitive termination अअस्सु by means of *sandhí* and the *oblique forms* in या and ए (the latter being a mere modification of the former) by means of the insertion of the euphonic semivowel य्. (See note on page 56.) I have, however, to add as a further argument, which escaped my attention there, in support of the theory that the High Hindí termination ए is merely a phonetic modification of the Maráṭhí termination या, the fact, that in Maráṭhí itself adjectives have a two-fold form of the

* In this case the व् of the Gaurian form might also be merely a phonetic modification of the म in the Prákrit संकमाह; just as Gaurian कुवार *prince* for Prákrit कुमारो.

† There are a few isolated traces of the contraction of the termination उओ to ऊ, in Prákrit already; as पवालु for पवालुओ; सव्वहू for सव्वहुओ; see note 5 to Essay IV, p. 105.

‡ Such *proper Gaurian* (not *Prákritic*) nouns in ऊ are more common in poetry; e. g., चिदू (for चिदओ) *friend*, in Chand's verse:

चल देत सीष तुहि चिदू चोद ॥ XXVIII, 63.

termination of the *oblique form, viz.* in ਆ and in ਏ; e. g., *to a good boy* is ਚੰਗਆ or ਚੰਗਏ ਮੁਣਸਾ ਲਾ (See *Manual* § 75, 8. p. 39.) It will be sufficient here, merely to illustrate the theory by a few examples. Sanskrit ਘੋਟਕ: has the genitive ਘੋਟਕਸ੍ਯ; Prákrit ਘੋਡਅਸ੍ਸ or ਘੋਡਅਸ or ਘੋਡਆਹ; in Gaurian the latter form is either contracted by *Sandhí* into ਘੋੜਾ (originally ਘੋੜਾਹ), which is the *oblique form* in Gujarátí, Naipálí, Marwárí; or by inserting ਯ੍ it becomes ਘੋੜਯਾ (originally ਘੋੜਯਾਹ) or, as spelled in Maráṭhí (on account of the quiescence of the medial ਯ) ਘੋੜਾ (originally ਘੋੜਾਹ); and this, finally, contracts into ਘੋੜੇ, the *oblique form* of the word in Hindí. Again Sanskrit ਘਾਟਸ੍ਥਃ or amplified ਘਾਟਸ੍ਥਕਃ *traveller* is in Prákrit ਘਾਟਅਰਓ, and in Gaurian contracted ਘਾਟਅਰ. The genitive of the Prákrit base is ਘਾਟਅਰਅਸ੍ਸ or ਘਾਟਅਰਅਸ or ਘਾਟਅਰਆਹ. The last form contracts by *sandhí* to ਘਾਟਅਰਾ (originally ਘਾਟਅਰਾਹ), which is the present Maráṭhí *oblique form* of the word. Again, Sanskrit ਕ੍ਰਤਃ or amplified ਕ੍ਰਤਕਃ *done* is in Prákrit ਕਿਦਓ or ਕਿਅਓ or ਕੇਲਓ; in Gaurian (with inserted euphonic ਯ੍) ਕਿਯੋ (Braj Bháshá), ਕਿਯਾ (Marwárí), ਕਿਆ (High Hindí), ਕੇਲਾ (Maráṭhí). The genitive of the Prákrit base is (ਕਿਅਅਸ੍ਸ or ਕਿਅਅਸ or) ਕਿਅਆਹ or ਕੇਲਆਹ; in Gaurian either 1., the euphonic ਯ੍ is inserted, thus ਕਿਯਆ (originally ਕਿਯਆਹ) or ਕੇਲਯਾ (originally ਕੇਲਯਾਹ); the latter is the present Maráṭhí *oblique form* (with the peculiar Maráṭhí spelling) ਕੇਲਾ; the former contracts the termination ਅਯਾ to ਏ, thus ਕਿਏ, which is the present Hindí *oblique form* (generally with the euphonic ਯ੍) ਕਿਯੇ; or 2., Gaurian makes sandhí of the Prákrit form ਕਿਅਆਹ; thus ਕਿਆ (originally ਕਿਆਹ), which is the present Marwárí *oblique form* (with euphonic ਯ੍) ਕਿਆ.

It is peculiar to Panjábí, that it possesses a number of masc. nouns of the category, now under consideration, which end in ਆਂ, instead of ਆ, as in all other Gaurian dialects. Similarly, the *oblique forms* of these Panjábí nouns end in ਏਂ instead of ਏ, the termination common to all the Gaurian languages; *e. g.*, *shopkeeper* is in Panjábí ਵਾਣੀਆਂ, while in Hindí it is ਵਾਣਿਆ or ਵਣਿਆ.* The *oblique form* in Panjábí is ਵਾਣੀਏਂ, in Hindi ਵਾਣਿਏ. The Panjábí shows this final *anunásiká* occasionally also, in other kinds of nouns, both masc. and fem.; e. g., ਮਾਉਂ or ਮਾਇਂ *mother*, ਗਾਈਂ *cow*, ਕਾਉਂ *crow*. This anunásiká is, no doubt, identical in nature with the anunásiká which we have seen is found in the termination of the *oblique form* of Gujarátí neuter nouns in ਉਂ. It may either be a mere provincialism and inorganic addition, or, as suggested in a note appended to Essay IV, it may be a sort of compensation for the elision of a consonant; e. g., in ਵਾਣੀਆਂ for the elision of ਕ contained in the original ਵਾਣਿਜਕੋ; in ਮਾਉਂ or ਮਾਇਂ either for the consonant

* In Maráthí ਵਾਣੀ; the difference is this: the Hindí and Panjábí are derived from the Skr. ਵਾਣਿਜਕਃ, Prák. ਵਾਣਿਅਓ; contracted to ਵਾਣੀਆ or ਵਾਣਿਆ; but the Maráṭhí form is derived from the Skr. ਵਾਣਿਜਾ, Pr. ਵਾਣਿਓ, contracted into ਵਾਣੀ; see below page 42, 5.

न् or क् of the original मालवा (see below page 42, 4.); in माईं, of the consonant क् of the original मावित्रा; in काउं of the consonant क् in the original काकः, though in the latter word perhaps the anunásiká might be a substitute for the nasal क् of the noun काग, which also means *crow.*

In Essay IV, it has been stated that the termination अक of bases formed with the affix क्, is sometimes modified into इक, and sometimes to उक, and it has been shown how by these means some Maráṭhi neuter nouns in ईं and ऊं arose. By an exactly analogous process of base-modification, masculine nouns in ईं and ऊ seem to have arisen. The principle which I shall attempt to illustrate is, that the Gaurian termination ईं of masc. nouns is derived from the Prákrit termination इओ; and the Gaurian termination ऊ of masc. nouns from the Prákrit termination उओ. But both Prákrit terminations इओ and उओ may arise in various ways: 1. The termination अक (*i. e.* अ + क) of a base may be modified to इक or उक, whence the nom. sing. would be in Skr. इकः or उकः, in Prák. इओ or उओ; thus: Skr. प्रतिवासिक (amplified from प्रतिवास) becomes प्रतिवासिक; nom. sing. प्रतिवासिकः; Pr. पडिवासिओ; Gaur. पड़ोसी (Hindí.)* Again, Skr. पिञ्जाकारक becomes पिञ्जाकारिक; nom. sg. Skr. पिञ्जाकारिकः, Pr. पिञ्जाआरिओ or पिंजारिओ; Gaur. पिंजारी Mar.† Again Skr. प्रहारक *watchman;* nom. sg. प्रहारकः, Pr. पहारओ Gaur. पहरा, *(Hindí)* or पहारा (Mar.); but the base becomes also प्रहारिक, nom. sg. प्रहारिकः, Pr. पहारिओ; Gaur. (Low Hindí) पहरी (or पहरिया); moreover the base becomes also प्रहारक; nom. प्रहारकः, Pr. पहारओ, Gaur. (Hindí) पहरू (or पहरवा or पहरवा). Again, ह्रापक *barber* (Skr. नापित); nom. sg. ह्रापकः, Pr. हावओ, Gaur. (Hindí) न्हावा; the base becomes also ह्रापिक, nom. sg. ह्रापिकः, Prák. हाविओ or नाविओ (see Ṣubhá Chandra III, 50. Hema Chandra I, 230.) or नाइओ; Gaur. (Mar.) न्हावी, or (Hindí) नाई; the base becomes moreover ह्रापुक, nom. sg. ह्रापुकः, Prák. हावुओ or नावुओ or नाउओ; Gaur. (Mar.) न्हाऊ, or (Hindí) नाऊ.‡ Compare Skr. ह्रडुकः *a kind of sweetmeat,* in Prák. ह्रडुआ, which is in Gaurian (Hindí) ह्रडू or (Mar.) ह्राडू.

2. The base may be one formed by the affixes इक or उक (which, however, are probably mere modifications of the affix अक, so that the examples

* See Hema Chandra I, 26, Subha Chandra II, 43, where प्रतिश्रत् is said to be in Prákrit पड़िसुआ; Pr. Pr. IV, 15, has पड़िसुदं.

† Or Skr. पिञ्जिकाकारक, Pr. पिंजिआआरओ or पिंजिआरओ; Gaur. पिंजियारो or पिंजियारा (Hindí.)

‡ The derivation of this word from the Skr. ह्रापक is quite clear from the Prákrit initial ह्र. The servant who attended his master at his bath and shaved him, was called ह्रापक. The Skr. नापित is probably a clumsy transliteration of the Prákrit title नाविओ; or else a corruption of the base ह्रापिक, which would be an equivalent of ह्रापक, as suggested in M. Williams' Skr. Lexicon.

under this head, would in reality not differ from those under the former). Thus मालिक from माला+इक *gardener* (commonly मालिन्); nom. sing. मालिकः, Pr. मालिओ; Gaur. माली. Again ताम्बूलिक from ताम्बूल *betel* + इक *vender of betel;* nom. sing. ताम्बूलिकः, Pr. तांबूलिओ; Gaur. तांबूली (or तांबोली). Again तैलिक from तैल+इक *oilman;* nom. sing. तैलिकः, Prák. तेलिओ (see Ṣubha Chandra IV, 95. Hema Chandra II, 98.); Gaur. तेली. Hereto might also be referred the Hindí पड़ोसी *neighbour* from Skr. प्रतिवासिक (for the more usual प्रतिवासिन्), and पहरी *watchman* from Skr. प्रहरिक (for the more usual प्रहरिन्), which have been already noticed under No. 1. Again वृश्चिक *scorpion*, nom. sing. Skr. वृश्चिकः, but Prák. विंचुओ or विच्चुओ (see Pr. Pr. I, 15.) or विच्छिओ; Gaur. (Hindí) बिच्छू, or, (Mar.) विंचू, or (Naipálí) बिच्छी. Similarly प्रवासिक *neighbour* Skr. प्रवासिकः (more usually प्रवासी of प्रवासिन्); but Prák. पवासुओ (Ṣubha Chandra II, 53.) or पवासू (see Ṣubha Chandra II, 8. Hema Chandra I. 44.) Again, चुलुक *handful* (of चुल्ल +उक), nom. sing. Skr. चुलुकः, Pr. चुलुओ; Gaur. चुलू.

3. Just as the affix क may be added to bases in अ, so it may be added also (though less usually) to bases in इ and उ; hence a base in इक or उक arises; e. g., कवि or amplified कविक *poet*, nom. sing. कविकः, Pr. कविओ; Gaur. (Hindí) कविया. Again, गुरु or amplified गुरुक *teacher;* nom. sing. गुरुकः, Prák. गुरुओ; Gaur. (Gamw.) गरवा. Again, कटु or amplified कटुक *pungent*, nom. sing. कटुकः, Pr. कडुओ, Gaur. कडुवा (or कड़ा.) In Hindí these forms are almost altogether confined to the Low-Hindí dialects, and are always formed by inserting the euphonic semi-vowel in the Prákrit termination. The Gaurian contracted forms in ई and क of this kind of nouns hardly ever occur. In High Hindí these nouns are used almost always in their simple form, without the affix क; thus कवि *poet*, nom. sing. Sk. कविः Pr. कवी, Gaur. (reducing final long ई) कवि; गुरु *teacher*, nom. sing. Skr., गुरुः, Pr. गुरु; Gaur. गुरु, etc.

4. The Prákrit affix क may also be added to bases in ऋ. The vowel ऋ changes in Prákrit to इ (according to the general rule, Pr. Pr. I, 28. and special rule, Ṣubha Chandra II, 90. Hema Chandra I, 135.), whence we obtain Prákrit bases in इक; or it changes to उ (see special rule, Ṣubha Chandra II, 88. 89. 90. Hema Chandra I, 131, 134, 135,), whence we get Prákrit bases in उक. Thus Skr. भ्रातृ or amplified भ्रातृक *brother* nom. sing. भ्रातृकः; Prák. भाइओ (*i. e.* भातिओ), or भाउओ (*i. e.* भातुओ); Gaur. (Hindí) भाई or (Mar.) भाऊ. Again Skr. मातृ or amplified मातृक *mother;* nom. sing. मातृकाः; Prák. माइआ (*i. e.* मातिका) or माउआ (*i. e.* मातुका,) Gaur. (Hindí, Panjábí) माइ, or (Panjábí) माऊँ. Again Skr. प्रनप्तृ or amplified प्रनप्तृक *grandson;* nom. sing. प्रनप्तृकः; Prák. पणत्तुओ; Gaur. पणतू (Mar.).

5. There are miscellaneous Sanskrit bases which, though they contain some other consonant (not क), also yield in Prákrit a base in इक or उक;

e. g., Skr: वाहिल, nom. sing. वाहिलः, Prák. वाहिलो; Gaur. वाही (Mar.). Again, मेऊस, nom. sing. मऊसः, Prák मेऊसो or मेऊँसो; Gaur. मेऊँ.

It will have been seen from these examples that the Prák. nom. sing. in इओ or उओ of the bases in इअ and उअ, assume in Gaurian a double form; *viz.* either a form in ई and ऊ, or one in इआ and उआ. For here again, as everywhere, the two Gaurian phonetic laws come into play; viz. of obviating the Prákrit hiatus either through the insertion of the connecting semi-vowels य् or व्, or through the contraction of the two hiatus-vowels in sandhi. Those forms which are made by inserting the connecting semi-vowels य, or व, are very common in Gaṃw. and in the Low Hindí generally, where they may be formed as alternative forms of any noun in ई or ऊ, very often without any difference in meaning. The connecting semi-vowel य is used for nouns in ई, and the connecting semi-vowel व for nouns in ऊ.* E. g., *gardener* is in Gaṇwárí both माली and मलिया,† *i. e.* the Prákrit is मालिओ, in which the Gaurian inserts य् between इ and ओ, and thus protects and preserves the Prákrit final ओ (or आ). Again, *watchman* is पहरू or पहरी or पहरवा or पहरिया; *i. e.* the Prákrit is पहारवो or पहारिओ, and the Gaurian, by inserting य् and व्, पहरवा and पहरिया. Then again, the inserted semi-vowels य् and व protect the final Prákritic आ.‡ So again *brother* is both भाई and भाइया. Sometimes these nouns in इआ and उआ (like the feminine nouns with the identical termination) imply, as distinguished from the nouns in ई and

* Rarely, also व् is inserted in the Prák. termination उअ; e. g., मुवयं in the opening line of Chand's Epic, ओंकार आदि प्रनम्य नम्य मुवयं वानीय वंदे पयं ॥

† The antepenultimate is shortened according to a peculiar Gaṇwárí law.

‡ In poetry the final long आ is often found shortened for metre's sake; e. g., in the following verse (kavitta) of *Chand*,

कहै कलि सुन कन्ह । तन्न पावन बड़ कव्वि य ॥
तन्न मन्न उच्चार । देवि दरसिय मज्झि छव्वि य ॥
तन्न बीर उपन्न । रंभ राजत सुभ दाद्य ॥
बाल केल प्रत्यंभ । सुरनि उच्चरि कवित्ताद्य ॥ I, 7,

We have here कव्वि य for कविया (Pr. कविओ, Skr. कविकः); छव्वि य or छविया (Pr. छविओ, Skr. छविकः); दाद्य for दाइया (Pr. दाइओ, Skr. दाडकः); कवित्ताद्य for कवित्ताइया. The full form is also met with, when the metre admits, as in the following (डमरी) of *Akbtar*—

निरंय ग्राम मे छूय लिरं । पनघट पै ठाडी गूजरिया ॥
पम धरत धरत लुट पलट गयो ॥
छूर पर मामर उलट गयो ॥
कर पकरत कंगन उचट गया । चल भार दे अकतर बांकरिया ॥

Here बाँकरिया (Pr. वंकरिओ, see Pr. Pr. IV, 15) *false* has kept the final long आ to rhyme with the femin. गूजरिया.

ऊ, definiteness or affection or contempt. In High Hindí, they are rarely used, and when used, then only to express contempt or affection (as भइया *dear brother*) or diminution (as खुटिया *a small pot.*) There are, however, a small number of masc. nouns in इया, which are, altogether incorporated into the High Hindí, and of which no alternative form in ई exists at all; as भेड़िया *wolf* and a few others.* Otherwise, the usual form of such nouns in High Hindí as well as in the other (literary) Gaurian languages, is that in ई and ऊ.

The process by which the Prákrit terminations इओ and उओ are turned into ई and ऊ in Gaurian, is one altogether analogous to that by which the Prákrit feminine terminations इआ and उआ are turned, in Gaurian, into ई and ऊ. It has been already fully explained. Its application to masc. nouns will be best shown by a few examples; e. g., Skr. वृश्चिकः *scorpion* becomes in Prákrit विच्छुओ or विंछुओ or विञ्छिओ; in Gaurian, by one of its laws, the final ओ is reduced to उ or अ, thus विंछुअ or विच्छुअ or विञ्छिअ; next, by another Gaurian law, the final hiatus-vowels are contracted by sandhi; thus we have the forms विच्छू (Hindí), विंचू (Mar.), and विञ्छी (Naip.) Again, Skr. भ्राता or amplified भ्रातृकः *brother;* Prák. भाइओ or भाउओ; in Gaur., through the intermediate stage of भाइअ and भाउअ, they become भाई and भाऊ. Again, Skr. प्रहरी, Pr. पहरिओ or पहरओ; in Gaur. first पहरिअ and पहरअ, next पहरी and पहर, etc.

The correctness of this theory of derivation of the Gaurian masculine nouns in ई and ऊ, receives strong support from the *oblique form*, which most nouns in ई and a few nouns in ऊ admit in Maráṭhi. Most nouns in ऊ do not admit an *oblique form;* while most nouns in ई do admit one. This is quite in order; for, as I have shown in a former place, the termination ऊ is generally an *altogether Gaurian* formation, being a reduction of the original Gaurian termination ओ, itself a contraction of the Prákrit termination अओ. On the other hand, the Gaurian termination ई is a partly Prákritic formation, being an immediate contraction of the Prákrit termination इओ. Similarly, the Gaurian termination ऊ in those few nouns which admit an *oblique form*, is a partly Prákrit formation, being an immediate contraction of the Prákrit termination उओ.

The oblique form of the masculine nouns in ई terminates in या; that of the masculine nouns in ऊ in वा; e. g., माळी *gardener* has genitive माळ्याचा; न्हावी *barber*, genitive न्हाव्याचा; भाऊ *brother*, genitive भावा चा; विंचू *scorpion*, genitive विंचाचा, etc. It has been stated already, that the Skr. वृश्चिकः becomes in Prákrit विंछुओ; the genitive is in Sanskrit वृश्चिकस्य, in Prákrit विंछुअस्स or विंछुअस or विंछुआस; in Gaurian the latter becomes

* The reason of this exception is plain; it is simply to avoid confusion; e. g., भेड़ी *wolf;* the short form of भेड़िया could not be distinguished from भेड़ी *sheep*, except by the gender the former being masc., the latter feminine. भेड़िया means literally the *sheep-catcher.*

contracted by sandhi (according to Gaurian law) to विंचू (originally विंचूआ) or, as it is spelled in Maráṭhí (acccording to a peculiar Maráṭhí phonetic law*), विंचा. Again, Sanskrit लड्डुकः *sweetmeat*, Prákrit लड्डुओ, has in the genitive Sanskrit लड्डुकस्य, Prákrit लड्डुअस्सor लड्डुआस or लड्डुआह; in Gaurian the latter is contracted to लाड्डा (originally लाड्डाह). From the analogy of these, we may conclude that other nouns in अ which have an *oblique form* in आ, must also be derived from Prákrit nouns in अओ (*i. e.* bases in अक); and their *oblique form* in आ is merely a phonetic modification of the Prákrit genitive. Thus the oblique form भावा must be derived from a Prákrit noun भाउओ *brother* (for भातुओ, Sanskrit भ्रातृक); the genitive of भाउओ is भाउअस्स or भाउआस or भाउआह, the latter contracted in Gaurian becomes भावा (originally भावाह); similarly, पहतू must be derived from the Prákrit noun पहणुओ (for प्रनप्तृकः); the genitive of it is पहणुअस्स or पहणुआस or पहणुआह, which in Gaurian is contracted to पहवा (originally पहवाह), the present Maráṭhí *oblique form* of the word. Now we know from the Prákrit grammarians that these Prákrit nouns भाउओ, पहणुओ, etc., really do exist. Thus also Sanskrit गोधूमः *wheat*, Pr. गोऊँओ (or गोऊमो); Gaurian गेहूँ (Hindí) or गहूँ (Maráṭhí); genitive Prákrit गोऊँअस्स, or गोऊँआस or गोऊँआह; Gaurian contracted गहो (originally गहाह), which is the present oblique form of the Maráṭhí word. All these *oblique forms* are occasionally spelled so, as to separate the semivowel व् from its conjunct consonant; thus विंचा or विंचवा; पहवा or पहतवा; गहा गहवा; because in the case of the semivowel व, there is a tendency in all the Gaurian dialects, to sound the neutral vowel before it. It should be noted, moreover, that in the case of all *oblique forms* in आ of such nouns in अ, the termination अ of which is a modification of the Prákrit termination अओ, the *conjunction* of व् with the base consonant is the more original and correct spelling. But in the case of all *oblique forms* in आ of such nouns in अ, the termination अ of which is a modification of the Prákrit termination अओ, the *separation* of व् from the base consonant is the better way of spelling.

The analogy of the masculine nouns in अ leads us further to conclude that also the masculine nouns in ऐं which admit an *oblique form* in आ, must be derived from a Prákrit base-form in ऐअ (ऐक), the genitive of which, ending in ऐअस्स, or ऐआस or ऐआह, is modified into the *oblique form* in आ, and the nominative of which ending in ऐओ, is modified into the *direct form* in ऐं. To this may be added a further argument, that the genitive of the only other kind of Sanskrit or Prákrit base which might have come into con-

* Maráṭhí has generally an unaspirate mute consonant, where the Hindí and Prákrit show an aspirate one; e. g., Skr. छत्री, Prak. छत्ती, Hindí छाती, Mar. छाती; Skr. सित्थं, Prak. सित्तं, Hindí सीथ, Maráṭhí सीत; Skr. इन्दिकः Pr. विंदुओ; Hindí बिन्दू, Mar. बिंदू, etc.

sideration (*viz.*, the base in इन् with a nominative in ई and genitive in इनः) cannot well be the original of the *oblique form* of the nouns in ई. E. g. माळी *gardener*, might at first sight be supposed to be identical with the Sanskrit and Prákrit noun माळी, nominative singular of the base मालिन्; but then, the genitive of that noun is Sanskrit मालिनः, Prákrit मालिणो, which form (*i. e.* मालिणो) could not well have been the original of the *oblique form* माळा (Mar.) of the Gaurian noun माळी; for it would be necessary to assume the elision of the nasal ण् and the change of the final णो to ळा, both phonetic modifications, otherwise without precedent.* But besides मालिन्, the Sanskrit and Prákrit have another base with the identical meaning, *viz.* मालिक. The genitive of this base would be Skr. मालिकस्य, Prák. मालिअस्स or मालिआस or मालिआह; Gaur. (contracted) माळा (orig. माळाह), which is the present *oblique form* of the Gaurian noun माळी. Hence it follows necessarily that the Gaurian *direct form* माळी, must be also a modification of the nom. sing. of the base मालिक, *i. e.* Skr. मालिकः, Prák. मालिओ. Similarly the Gaurian noun तेळी *oilman* must be derived from the nom. sing. तेलिओ (Skr. तैलिकः) of the base तलिक; for its *oblique form* तेळा leads us back to a Prák. genitive तेलिआह or तेलिआस or तेलिअस्स, belonging to the nom. तेलिओ (not to तेळी of तैलिन्).

It remains to examine the oblique form of those masculine nouns which by means of inserting the semivowel य् or व् have preserved the Prákrit termination ओ, and therefore terminate in अवा, अया, इया, उवा.

In High Hindí (not in Low Hindí, where they may be used without any appreciable modification of meaning) and in Maráthí, these nouns are commonly used to express *smallness* (and hence affection or contempt†).

* Prákrit final ओ is in Gaurian always reduced to ए or (quiescent) अ; but Prákrit अया (अकः) contracted to Gaurian ओ or आ.

† In the manual these nouns are not noticed at all. Dadoba in his grammar notices those in या (*i. e.* अया) only, see page 274. But the others do also occur occasionally. Molesworth in his Mar. dictionary mentions, e. g., विंचवा (*i. e.* विंचुवा) *sharp, a small dagger* (of विंचू *scorpion*), corresponding to Hindí बिछुवा or बिछूवा.. Another means of forming these affectionate or contemptive diminutives is the affix ड़ा, ड़ी, ड़े (Mar.) or रा, री, रे (Hindí). So, e. g., in the Low Hindí verse —

माई री कहौं कगवा बोले ॥
राजा की अटरिया ॥
कगवा बोले ॥
जीयरा डोलेरे ॥

Here we have the diminutives कागवा *crow* (काग) and अटरिया *pinnacle* (अटरी), of the one kind; and माईरी *mother* (माई), जीयरा *soul* (जीव or जी), डोलेरे *palpitates* (डोले), of the other kind. Regarding the Mar. diminutives in ड़ा, see Dadoba, p. 272. Manual, pp. 113, and 34.

Their *oblique form* ends in High Hindí and the Low Hindí dialects of the Braj Bhásha class in ए; that is, their termination changes to वे, ये, ए, वे; e. g., कड़वा *bitter*, gen. कड़वे का;—भेड़िया *wolf*, gen. भेड़िये का;—पहरवा *watchman*, gen. पहरवे का,*—कागवा *small crow*, gen. कागवे का;—लुटिया *small pot*, gen. लुटिये का; -विछुवा *small dagger*, gen. विछुवे का. But in Maráthí and in the Low Hindí dialects of the Gaṇwárí class the *oblique form* of these nouns end in चा, that is the termination remains unchanged to outward appearance; e. g., the Mar. रामा *small Rám;* gen. रामा चा (*i. e.* रामया चा); Gaṇw. घोड़वा *horse*, gen. घोड़ावा कै; लोटिया *drinkiny pot*, gen. लोटिवा कै; पहरवा *watchman*, gen. पहरवा कै, etc. This circumstance, however, should not mislead to the conclusion that the *oblique* and *direct* forms are (formally) identical; that is, that in Gaurian these nouns belong to the *proper Gaurian* element. That this is probably not the case, but that the identity of the terminations of the *oblique* and *direct* forms is merely the accidental result of phonetic modifications, is sufficiently indicated by the fact that those terminations are different (*i. e.* चा and ए) in the other Low Hindí dialects. According to the method previously explained, these *oblique forms* would originate thus; e. g. the genitive of the Prákrit भेडिओ would be भेडियस्स or भेडियास or भेडियाह; the latter form becomes in Gaurian, by inserting the euphonic semivowel य, भेड़िया (originally भेड़ियाह), which is the *oblique form* of the word in Gaṇwárí; next, the final या is contracted into ए, thus भेड़िए or (with euphonic य् inserted) भेड़िये, and this is the *oblique form* of the word in High Hindí and Braj Bháshá.

In conclusion, I will again add tables, exhibiting at a glance the results arrived at in this essay and the previous one.

In the next essay (VI), I propose to examine an old Hindí *oblique form* of an altogether different kind from those hitherto discussed; *viz.* the oblique forms in हि and ह.

* These three nouns are also High Hindí, and not diminutive; भेड़िया is derived by means of the affix इक from भेड़ *sheep;* just as मालो *gardener* from माला *garland* and इक.

I.—Table.*

On bases in अ, इ, उ;

Showing the phonetic changes of nominal terminations in Sanskrit, Prákrit, and Gauṛian.

A.—Masculina.

Nominative or Direct Form.			Genitive or Oblique Form.		
Skr.	Prák.	Gauṛian.	Skr.	Prákrit.	Gauṛian.
अः	ओ	{ उ S. and poet. H. अ H. M. G. P. N.	अस्य	अस्स, आस, आह,	(आह), आ M.
इः	ईं	{ इ old H. अ H. M. G. P. N.	एः	इस्स, (ईंस, ईंह)	(ईंह), ईं M.
उः	ऊ	{ उ old H. अ H. M. G. P. N.	[ओः	उस्स, (ऊस, ऊह)	(ऊह), ऊ M.].

* H. = Hindí; M. = Maráṭhí; P. = Panjábí; G. = Gujarátí; N. = Naipálí; S. = Sindhí; Br. = Braj Bháshá; Mr. = Maṛwárí; Gw. = Gaṇwárí; A. = Alwarí. All forms inclosed in brackets are theoretical and hypothetical.

B.—Feminina.

आ	आ	आ H. M. P. G. N.	आयाः	आए, आइ	इ M.
ईं	ईं	(इ), आ H. M. P. G. N.	यायः	ईंए, ईंइ	ईं M.
अ	अ	(उ) आ H. P.	(यायः	अए, अइ	अ M. hypoth.)
इः	ईं	(इ) आ H. M. P. G. N.	इः or यायः	इस, (ईंस, ईंच) ईंए, ईंइ	(ईंच) ——— } ईं M.
उः	अ	(उ) आ H. P.	({ ओः or यायः	उस, (अस, अच) अए, अइ	(अच) ——— } अ M. hypoth.)

C.—Neutra.

अम्	अं	आ H. M. P. G. N.	अस	अस, आच, आइ	(आच), आ M.
इ	ईं	इ old. H. आ H. M. P. G. N.	(इनः	इस, (ईंस, ईंच)	(ईंच) ईं M.)
(उ	उं	(उ) आ	उनः	उस, (अस, अच)	(अच), अ M.)

II.—Table.

On bases in অ, ই, উ;

Showing the derivation of Gaurian nominal terminations from Prákrit and Sanskrit.

A.—Masculina.

Nom. or Direct Form.			Gen. or Oblique Form.			
Gaurian.	Prák.	Skr.	Gaurian	Prákrit.	Skr.	Remarks.
M. অ	ও	অঃ	আ (আহ)	আহ, আহ, অস্স	অস্য	
H. P. G. N. অ	ও	অঃ	অ	——	——	

B.—Feminina.

M. अ,(इ)	ईं	इः	ईं, (ईंच)	(ईंच, ईंच), ईच्च	एः	fem. in Gauṛian, but masc. in Skr. and Prák.
H. P. G. N. अ (इ)	ईं	इः	अ	——	——	
H. P. अ,(उ)	ऊ	ऊः	अ		——	
M. अ (इ)	ईं	इः	ईं (ईंच)	(ईंच, ईंच), ईच्च or ईंर, ईंर	एः या:	fem. in Gauṛian, as well as in Skr. and Prák.
H. P. G. N. अ (इ)	ईं	इः	अ	——	——	
H. P. अ (उ)	ऊ	ऊः	अ		——	
M. अ	आ	आ	र	आर, आर	आयाः	
H. P. G. N. अ	आ	आ	अ	——	——	
M. अ (इ)	ईं	ईं	ईं	ईंर, ईंर	या:	
H. P. G. N. अ (इ)	ईं	ईं	अ	——	——	
H. P. अ (उ)	ऊ	ऊ	अ		——	

C.—Neutra.

M. अ	यं	यम	या (यार)	(यार, यार) यच्च	यच्च	neutr. in Maráṭhí, but masc. in all other Gauṛian dialects.

III.—Table.

On bases in अ, इ, उ,

Examples to Tables I and II.

A.—Masculina.

No.	Base.	Nom. or Direct Form. Skr.	Prák.	Gaurian.	Genitive or Oblique Form. Skr.	Prák.	Gaurian.
1.	धर्म in अ	धर्मः	धम्मो	धाम masc.	धर्मस्स —	धम्मस्स धम्मास धम्माद —	(धामाद), धामा M. धाम H. P. G. N.
2.	अग्नि in इ	अग्निः	अग्गी	(आनि) आन fem.	अग्नेः —	अग्गिस्स (अग्गोस) (अग्गोद) —	(आनीद), आनी M. आन H. P. G. N.
3.	बाड in उ	बाडः	बाड	— M. (बाड) बाद H. fem.	बाडोः —	बाडस्स (बाडस) (बाडद) —	बाड hypoth. M. बाद H. P. G. N.

B.—Feminina.

1.	जिह्वा in ष्वा	जिह्वा	जीभा or जिब्भा	जीभ	जिह्वायाः ——	जिब्भार जिब्भाद् ——	जीभे M. जीभ H. P. G. N.
2.	भगिनी in ईं	भगिनी	भइणी	बहीण M. बहिन H.	भगिन्याः ——	भइणीर भइणीद् ——	बहिणी M. बहिन H. P.
3.	श्वश्रू in ऊ	श्वश्रूः	सासू	—— M. सास H.	श्वश्र्वाः ——	सासूर सासूद् ——	सासू hypoth. M. सास H.
4.	भिक्षि in इ	भिक्षिः	भिक्षी	भीँत	भित्तेः or भित्त्याः ——	भित्तिक्ष etc. भित्तीर भित्तीद् ——	(भीँतीच) —— भीँत H. } भीँती M.
5.	धेनु in उ	धेनुः	धेणू धेण्ण धेण्णू	जण M. जणू H. ईंण P.	धेनोः or धेन्वाः ——	धेणुक्ष etc. धेणूर ——	जणूच —— जण H. ईंण P. } जणू theor. M.

C.—Neutra.

1.	अच्छ in अ	अच्छम्	अच्छं	अच्छ	अच्छस / ——	अच्छस्सु / अच्छसु / अच्छाइ / ——	(अच्छाइ) अच्छ M. अच्छ H. P. G. N.
2.	अच्छि in इ	अच्छि	अच्छिं (अच्छिं)	(अँखि) आँख fem.	——	——	आँख H. (not used in M.)
3.	Examples of bases in ड wanting.						

Notes to Tables I, II. III.

Note 1.—Observe that the final of every noun, whatever its gender or termination in Prákrit (or Sanskrit) may be, becomes in Gaurian अ. This circumstance and the confusion to which it must necessarily have given rise, explains the two following facts: *viz.* (1) almost all masc. and neuter nouns with a base in इ or उ and fem. nouns with feminine bases in ई or ऊ, which came into the Gaurian through the Prákrit, have *now* disappeared from the Gaurian, and have been re-introduced into it *directly* from the Sanskrit. When thus introduced, they retain their final इ or उ (only rejecting the visarga or anuswára), and ई or ऊ and this can easily be distinguished from other nouns. Thus we have in Gaurian the *Sanskritic* nouns कवि *poet*, प्रभु *lord*, ध्वनु *sound*, नदी *river*, वधू *wife*, etc., instead of the Prákritic ones कव, पह, झण, णच्च or णच, वह, which have disappeared. The old Hindí of Chand has still पड for प्रभु, and वह is preserved in पतोह *daughter-in-law*, for पुत्रवधू.

2.—Those *few* masc. and neuter nouns with a base in इ or उ, which have one into the Gaurian through the Prákrit and still remain in it, have changed their gender, namely, they have become feminine. Such are the *Prákritic* nouns आग *fire* (base अग्गि), fem. in Gaurian, but masc. in Prák. and Skr.; आँख *eye* (base अक्खि) fem. in Gaurian, but neuter in Prák. and Skr.; बाह *arm* (base बाहु) fem. in Gaurian, but masc. in Prák. and Skr., etc. It may be asked, how is it, that in order to obtain uniformity of gender, all masc. and neuter nouns turned into fem., instead of all fem. and neuter nouns

turning into masc., which at first sight might appear the more natural course. The reason, I believe, is that by far the greatest majority of bases in ए and ओ are feminine (e. g., all those in णि), while there are comparatively only very few masc and neuter bases in ए and ओ. Hence the preponderating influence of the fem. nouns assimilated the gender of the few masc. and neuter nouns. A similar result happened in the case of the neuter nouns in ऊँ, ऊं, ईं; when these dropped (as in the modern Hindí, Panjábí, etc.) their final anunásiká, and thus their termination (ऊ, ऊ, ई) became identical with those of masc. and fem. nouns, the influence of the latter assimilated their gender; thus we have Hindí चोरी (for चोरीं) *theft*, feminine for the Prákrit neuter चोरिअं (Skr. चौर्यं); or पानी *water* (for पानीं) masculine for the Prákrit neuter पाणिअं (Skr. पानीयं).

Note 2.—Feminine nouns in ऋ, derived from masc. or fem. bases in ऽ, or from fem. bases in ऊ, are very rare in Maráṭhí. There most of these nouns exist only with the amplified base, made by the affix क; thus while Hindí has तन *body* (base तनु feminine), the Maráṭhí has तनू from base तनुका; while Hindí has बाँह *arm* feminine (from base बाहु masc.), Maráṭhí has बाही; while Hindí has सास *mother-in-law* from base श्वश्र, Maráṭhí has सासू from base श्वश्रू, etc. In Maráṭhí, it appears, those exceptional feminine nouns in ऋ form their *oblique form* anomalously in आ, following the analogy of the Maráṭhí masc. and neuter nouns in ऋ, and forgetting that their original (Sanskrit) base was not one in ऋ, but in ऽ; thus, ऊस *sugarcane* has gen. ऊसा चा, just as घाम *heat* has gen. घामा चा, as if its original base had not been ऊसु, but ऊस. To judge from the analogy of the Maráṭhí fem. nouns in ऋ with bases in ऊ, the *oblique form* of fem. nouns in ऋ with bases in ऽ, if regular, ought to have ended in ऊ; thus ऊस ought not to have an *oblique form* ऊसा, but ऊसू, Prák. उक्खू, उक्खूस) उक्खुस or उक्खूर.

Note 3.—The termination ईं of the oblique form of Maráṭhí fem. nouns in ऋ with bases in ईं, is to be explained thus: take, e. g., बोर of base बदरी *jujube tree;* the gen. would be in Sansk. बदर्याः, in Prák. बे दराए or बोरीए; the final ईए of the latter form is, in Gaurian, contracted by sandhi to ई; thus we obtain the present Gaurian (Maráthí) form बोरी. Similarly, the termination ए of the oblique form of Maráṭhí feminine nouns in ऋ with bases in आ, may be explained. E. g., जीभ with base जिह्वा *tongue;* the genitive would be in Sansk. जिह्वायाः, in Prák. जिब्भाए or जिब्भाइ; the final आइ of the latter form is, in Gaurian, contracted by sandhi to ए; thus we obtain the present Gaurian (Marathí) oblique form जीभे. Or its origin may be explained as in Essay IV., p. 63.

C.—Neutra.

1.	अच्छ in अ	अच्छम्	अच्छं	अच्छ	अच्छअ ——	अच्छआ अच्छाअ अच्छाउ ——	(अच्छाउ) अच्छ M. अच्छ H. P. G. N.
2.	अच्छि in इ	अच्छि	अच्छिं (अच्छिं)	(अंखि) आंख fem.	——	——	आंख H. (not used in M.)
3.	Examples of bases in उ wanting.						

Notes to Tables I, II. III.

Note 1.—Observe that the final of every noun, whatever its gender or termination in Prákrit (or Sanskrit) may be, becomes in Gaurian अ. This circumstance and the confusion to which it must necessarily have given rise, explains the two following facts: *viz.* (1) almost all masc. and neuter nouns with a base in इ or उ and fem. nouns with feminine bases in ई or ऊ, which came into the Gaurian through the Prákrit, have *now* disappeared from the Gaurian, and have been re-introduced into it *directly* from the Sanskrit. When thus introduced, they retain their final इ or उ (only rejecting the visarga or anuswára), and ई or ऊ and this can easily be distinguished from other nouns. Thus we have in Gaurian the *Sanskritic* nouns कवि *poet*, प्रभु *lord*, ध्वनु *sound*, नदी *river*, वधू *wife*, etc., instead of the Prákritic ones कव, पह, झन, नइ or नय, वह, which have disappeared. The old Hindí of Chand has still पहु for प्रभु, and वह is preserved in पतोह *daughter-in-law*, for पुत्रवधू.

2.—Those *few* masc. and neuter nouns with a base in इ or उ, which have one into the Gaurian through the Prákrit and still remain in it, have changed their gender, namely, they have become feminine. Such are the *Prákritic* nouns आग *fire* (base अग्नि), fem. in Gaurian, but masc. in Prák. and Skr.; आंख *eye* (base अक्षि) fem. in Gaurian, but neuter in Prák. and Skr.; बाह *arm* (base बाहु) fem. in Gaurian, but masc. in Prák. and Skr., etc. It may be asked, how is it, that in order to obtain uniformity of gender, all masc. and neuter nouns turned into fem., instead of all fem. and neuter nouns

turning into masc., which at first sight might appear the more natural course. The reason, I believe, is that by far the greatest majority of bases in ए and ओ are feminine (e. g., all those in ति), while there are comparatively only very few masc and neuter bases in ए and ओ. Hence the preponderating influence of the fem. nouns assimilated the gender of the few masc. and neuter nouns. A similar result happened in the case of the neuter nouns in ऐं, ऊं, ईं; when these dropped (as in the modern Hindí, Panjábi, etc.) their final anunásiká, and thus their termination (या, ऊ, ई) became identical with those of masc. and fem. nouns, the influence of the latter assimilated their gender; thus we have Hindí चोरी (for चोरीं) *theft*, feminine for the Prákrit neuter चोरिअं (Skr. चौर्यं); or पानी *water* (for पानीं) masculine for the Prákrit neuter पाणिअं (Skr. पानीयं).

Note 2.—Feminine nouns in आ, derived from masc. or fem. bases in ओ, or from fem. bases in ऊ, are very rare in Maráṭhí. There most of these nouns exist only with the amplified base, made by the affix क; thus while Hindí has तन *body* (base तनु feminine), the Maráṭhí has तनू from base तनुका; while Hindí has बाँह *arm* feminine (from base बाहु masc.), Maráṭhí has बाही; while Hindí has सास *mother-in-law* from base श्वश्र, Maráṭhí has सासू from base श्वश्रूका, etc. In Maráṭhí, it appears, those exceptional feminine nouns in आ form their *oblique form* anomalously in या, following the analogy of the Maráṭhí masc. and neuter nouns in आ, and forgetting that their original (Sanskrit) base was not one in आ, but in ओ; thus, ऊस *sugarcane* has gen. ऊसा चा, just as घाम *heat* has gen. घामा चा, as if its original base had not been ऊसु, but ऊस. To judge from the analogy of the Maráṭhí fem. nouns in आ with bases in ए, the *oblique form* of fem. nouns in आ with bases in ओ, if regular, ought to have ended in ऊ; thus ऊस ought not to have an *oblique form* ऊसा, but ऊसू, Prák. उच्चू, उच्चूस) उच्चुस्स or उच्चूए.

Note 3.—The termination ईं of the oblique form of Maráṭhí fem. nouns in आ with bases in ईं, is to be explained thus: take, e. g., बोर of base बदरी *jujube tree;* the gen. would be in Sansk. बदर्याः, in Prák. बे दराए or बोरीए; the final ईए of the latter form is, in Gaurian, contracted by sandhi to ए; thus we obtain the present Gaurian (Maráṭhí) form बोरी. Similarly, the termination ए of the oblique form of Maráṭhí feminine nouns in आ with bases in या, may be explained. E. g., जीभ with base जिह्वा *tongue;* the genitive would be in Sansk. जिह्वायाः, in Prák. जिब्भाए or जिब्भाइ; the final याए of the latter form is, in Gaurian, contracted by sandhi to ए; thus we obtain the present Gaurian (Maráṭhí) oblique form जीभे. Or its origin may be explained as in Essay IV., p. 63.

V.—Table.

On bases in अक, इक, उक,

showing the derivation of those Gauṛian forms which are made from the Prákrit by means of *sandhi*.

A.—Masculina.

Nominative or Direct form.					Genitive or Oblique form.		
No.	Language.	Gauṛian.	Prák.	Skr.	Gauṛian.	Prákrit.	Sanskrit.
1.	M.	आ	अओ	अकः	या, (अयाह)	अआह, अआस, अअस्स	अकस्य
2.	H. P.	आ	अओ	अकः	ए, (एह, अयाह)	अआह, अआस, अअस्स	अकस्य
3.	P.	आँ	अओ	अकः	ईं, (ईंह, अयाह)	अआह, अआस, अअस्स	अकस्य
4.	M.	आ	अआ	अकः	या, (याह)	अआह, अआस, अअस्स	अकस्य

5.	G. Mr. N.	ओ	अओ	अकः	आ, (आद)	अआद, अआस, अअस्स	अकस्स
6.	old. M.	ओ	अओ	अकः	आ, (अआद)	अआद, अआस, अअस्स	अकस्स
7.	B. A.	ओ	अओ	अकः	ए, (एद, अयाद)	अआद, अआस, अअस्स	अकस्स
8.	M.	ओ	अओ	अकः	ओ	——	——
9.	Br.	औ	अओ	अकः	ए, (एद, अयाद)	अआद, अआस, अअस्स	अकस्स
10.	M.	ई, (इय)	इओ	इकः	या, (याद)	इआद, इआस, इअस्स	इकस्स
11.	P. H. G. N.	ई, (इय)	इओ	इकः	ई ——	——	——
12.	M.	ञ (ओ)	अओ	अकः	आ, (आद)	अआद, अआस, अअस्स	अकस्स
13.	M.	ञ (ओ)	अओ	अकः	वा, अवा, (अवाद)	अआद, अआस, अअस्स	अकस्स
14.	M. H. P. G. N.	ञ (ओ)	अओ	अकः	ञ	——	——
15.	M.	ञ (उव)	उओ	उकः	वा, अवा, (वाद)	उआद, उआस, उअस्स	उकस्स
16.	H. P. G. N.	ञ (उव)	उओ	उकः	ञ	——	——

B.—Feminina.

Nominative or Direct form.					Genitive or Oblique form.		
No.	Language.	Gaurian.	Prák.	Skr.	Gaurian.	Prákrit.	Sanskrit.
1.	M.	इँ, (इअ)	इआ	इका	ये, (इए, इअए)	इआए	इकायाः
2.	H. P. G. N.	इँ, (इअ)	इआ	इका	इँ	—	—
3.	P.	इँ॰ (इअ)	इआ	इका	इँ॰	—	—
4.	M.	उ, (उअ)	उआ	उका	वे (उए, उअए)	उआए	उकायाः
5.	H. P. G. N.	उ, (उअ)	उआ	उका	उ	—	—
6.	P.	उँ (उँअ)	उआ	उका	उँ	—	—

C.—Neutra.

1.	B. M.	ओँ	अयं	अकम्	ए, (एव, अयाद)	अयाद, अयास, अयस्स	अकस्स
2.	Mr.	ओं	अयं	अकम्	या (याद)	अयाद, अयास. अयस्स	अकस्स
3.	Br.	ओँ	अयं	अकम्	ए (एव, अयाद)	अयाद, अयास, अयस्स	अकस्स
4.	M.	ईं (अयं)	अयं	अकम्	या (अया, अयाद)	अयाद, अयास, अयस्स	अकस्स
5.	M.	ईं (इयं)	इयं	इकम्	या (याद)	इयाद, इयास, इयस्स	इकस्स
6.	M.	ॐ (ओं)	अयं	अकम्	या (याद)	अयाद, अयास, अयस्स	अकस्स
7.	M.	ॐ (ओं)	अयं	अकम्	या, अवा (अवाद)	अयाद, अयास, अयस्स	अकस्स
8.	A.	ॐ (ओं)	अयं	अकम्	ए, (एव, अयाद)	अयाद, अयास, अयस्स	अकस्स
9.	M.	ॐ	उयं	उकम्	वा (वाद), अवा	उयाद, उयास, उयस्स	उकस्स
10.	G.	ॐ (ॐ, ओं)	अयं	अकम्	ओं, (ओंद)	अयाद, अयास, अयस्स	अकस्स
11.	N.	ऊ (ॐ)	अयं	अकम्	वा, वाद	अयाद, अयास, अयस्स	अकस्स

VI.—Table.

On bases in अक, इक, उक,

showing the derivation of those Gauṛian forms which were made from the Prákrit by inserting the euphonic semi-vowels य् or व्.

A.—Masculina.

Nom. or Direct form.					Genitive or Oblique form.		
No.	Language	Gauṛian	Prák.	Skr.	Gauṛian.	Prákrit.	Sanskrit.
1.	M.	या (अया)	अओ	अकः	अया (अयाह)	अआह, अआस, अअस्स	अकस्य
2.	Br.	अया	अओ	अकः	अये (अयाह)	अआह, अआस, अअस्स	अकस्य
3.	Br.	ऐ (अय)	अओ	अकः	ऐ	—	—
4.	GW.	अवा	अओ	अकः	अवा (अवाह)	अआह, अआस, अअस्स	अकस्य
5.	Br.	अवा	अओ	अकः	अवे (अवाह)	अआह, अआस, अअस्स	अकस्य
6.	GW.	औ (अव)	अओ	अकः	आ	—	—

7.	GW.	इया	इयो	इकः	इया (इयाङ)	इयाङ, इयाश, इयस्स	इकस्स
8.	Br.	इया	इयो	इकः	इये (इयाङ)	इयाङ, इयाश, इयस्स	इकस्स
9.	GW.	उया	उयो	उकः	उया (उयाङ)	उयाङ, उयाश, उयस्स	उकस्स
10.	Br.	उया	उयो	उकः	उये (उयाङ)	उयाङ, उयाश, उयस्स	उकस्स

B.—Feminina.

1.	H.	इया	इया	इका	इया	—	—
2.	H.	उया	उया	उका	उया	—	—

C.—Neutra.

Maráṭhí neuters in ईं (Table V, No. 4) and Maráṭhí neuters in कं (Table V, No. 7) might be also enumerated under this head.

VI.—Table.

On bases in अक, इक, उक,

showing the derivation of those Gauṛian forms which were made from the Prákrit by inserting the euphonic semi-vowels य् or व्.

A.—Masculina.

	Nom. or Direct form.				Genitive or Oblique form.		
No.	Language	Gauṛian	Prák.	Skr.	Gauṛian.	Prákrit.	Sanskrit.
1.	M.	या (अया)	अओ	अकः	अया (अयाइ)	अआस, अआस, अअस्स	अकस्य
2.	Br.	अया	अओ	अकः	अये (अयाइ)	अआस, अआस, अअस्स	अकस्य
3.	Br.	ऐ (अय)	अओ	अकः	ऐ	—	—
4.	Gw.	अवा	अओ	अकः	अवा (अवाइ)	अआस, अआस, अअस्स	अकस्य
5.	Br.	अवा	अओ	अकः	अवे (अवाइ)	अआस, अआस, अअस्स	अकस्य
6.	Gw.	वौ (अव)	अओ	अकः	वा	—	—

7.	GW.	एषा	एषो	एकः	एषा (एषाः)	एषाभ्, एषाभ्, एषसु	एकसु
8.	Br.	एषा	एषो	एकः	एषे (एषाः)	एषाभ्, एषाभ्, एषसु	एकसु
9.	GW.	उषा	उषो	उकः	उषा (उषाः)	उषाभ्, उषाभ्, उषसु	उकसु
10.	Br.	उषा	उषो	उकः	उषे (उषाः)	उषाभ्, उषाभ्, उषसु	उकसु

B.—Feminina.

1.	H.	एषा	एषा	एका	एषा	—	—
2.	H.	उषा	उषा	उका	उषा	—	—

C.—Neutra.

Maráṭhí neuters in ऍ (Table V, No. 4) and Maráṭhí neuters in ॅं (Table V, No. 7) might be also enumerated under this head.

VII.—TABLE.
Examples to Tables I, II, III.

Masculina.

	Nominative or Direct form.				Genitive or Oblique form.		
No.	Affix.	Skr.	Prák.	Gaurian.	Skr.	Prákrit.	Gaurian.
1.	अक	घोटकः	घोडओ	घोड़ो Br. घोड़ो MT. G. N. घोड़ा H. P. M. घोड़वा, घोड़ो GW.	घोटकस्य	घोडअस्स / घोडअस्स / घोडआह	(घोड़ाह) घोड़ा MT. N. (घोड़याह) घोड़्या M. घोड़े H. P. (घोड़वाह) घोड़वा GW.
	अ+क	रामः	रामओ	रामा M. * रामया M. रमय, रमै Br. रमवा GW.	रामस्य	रामअस्स / रामअस्स / रामआह	(रामाह) रामा M. (रामयाह) राम्या M. (रमवाह) रमवा GW.
		शालः	शालओ	साला H. शालो MT. G. N. शालू H. साडू M.	शालस्य	शालअस्स / शालअस्स / शालआह	(शालयाह, शाल्या) शाले H. (शाड़वाह) शाड़वा, शाड़्वा M.
	अक for इक	मूषिकः	† मूसओ	मूसा H. P. M. G. N. मुसवा GW.	मूषिकस्य	मूसअस्स etc. / मूसआह	(मूसयाह, मूस्या) मूसे H. (मुसवाह) मुसवा GW.

* These forms can only be made of nouns expressing rational beings in Maráṭhí; but in Gaṇwárí of every noun.
† See Hema Chandra, I, 88.; but there is also a Skr. noun मूषकः

2.	ऋक	मालिक (माली)	मालिओ	माला H. P. G. N, मलिया GW.	मालिकस्य	मालिअस्स मालिआस मालिआह	(मालाआह) मालआ M. (मलियाह) मलिया GW.
	ऋ+क	कविः	कविओ	कविया GW. old H.	कवेः	कविआह etc.	(कवियाह) कविया GW.
	ऋक for ख्रक	ख्रापकः (स्रापितः)	ख्रावओ ख्राविआ ख्राउओ	ख्रावा H. ख्रावी M. ख्रार्इ H. ख्राउ M. ख्राउ H.	ख्रापकस्य	ख्रावअस्स etc. ख्राविआह etc.	(ख्रावयाह, ख्राव्या) ख्रावे H. (ख्राव्याह) ख्राव्या M.
	ऋक for ऋक	see	No. 3,	भाडकः, etc.			
3.	ओक	लडुकः	लडुओ	लडू H. लाडू M. G. लडुवा GW.	लडुकस्य	लडुअस्स लडुआस लडुआह	(लाडुआह) लाडुआ (लाडवा) M. (लडुवाह) लडुवा GW.
	ओ+क	गुवः	गुवओ	गुवय old H. गुंवा GW.	गुवाः	गुवआह etc.	(गुवयाह) गुवया GW.
	ओक for अक	see	No. 2,	ख्रापकः etc.			
	ओक for ऋक	इषिकः	विंछुओ विच्छुओ विच्छिओ	विंचू M. विच्छू H. P. विछुवा GW. विच्छी N.	इषिकस्य	विछुअस्स विछुआस विछुआह	(विंचाह) विंचा (विंछवा) M. (विछुवाह) विछुवा GW.
	ओक for अक	भाडकः (भाज)	भाडओ भाउओ	भाडं H. P. भडुया GW. भाउ M.	भाडकस्य	भाडआह etc. भाउआह etc.	(भाडयाह) भडया GW. (भावाह) भावा M.

Continuation of VII.—TABLE.

B.—Feminina.

	Nominative or Direct form.				Genitive or Oblique form.			
No.	Affix	Skr.	Prák.	Gaurian.	Skr.	Prákrit.	Gaurian.	
1.	इक	(वीजं) (वीजिका)	वीअं वीइआ	वी M.	वीजस्य वीजिकायाः	वीआस, वीआइ वीइआए	(वियाइ, विया) (वीअए, वीए)	विये M. ?
		घोटिका	घोडिआ	घोड़ी M. H. P. G. N. घोड़िया GW.	—	—	—	
2.	उक	वालुका	वालुआ	वालू M. H. वलुवा GW.	वालुकायाः	वालुआए	(वालुअए) वाल्ले M.	
	उ+क	श्वश्रू	सासुआ	सासू M.	श्वश्रुवाः	सासुआए	(सासुअए) सासे M.	
	उक for इक	गैरिका	गेरिआ गेरुआ*	गेरी M. गेरू M. H. गुरवा GW.	—	—	—	
	उक for ऋक	मातृका (माता)	मादुआ माउआ	माई H. मइया GW. माउ M.	—	—	—	

C.—Neutra.

1.	अ+क	सुवर्णम्	सुवण्णं	सोनों Mr. सोनैं Br. सोनूं A. सोनूं G. सोना H. सोनयं old H. सोनें M. सोनवा GW.	सुवर्णस्य	सुवण्णस्स सुवण्णास सुवण्णाइ	(सोनाइ) सोना Mr. G. (सोनयाइ) सोन्या M: सोने H. (सोनवाइ) सोनवा GW.
		(पिञ्जम्)	पिञ्जयं	(पिञ्जों) पिजूं M. पिजा H. पिञ्जवा GW.	पिञ्जस्य	पिञ्जस्स पिञ्जयास पिञ्जयाइ	(पिञ्जाइ) पिजा M. (पिञ्जयाइ, पिञ्जया) पिजे H. (पिञ्जवाइ) पिञ्जवा GW.
	अक	पेटकम्	पेडयं	(पेडवं, पेडों) पेडूं M.	पेटकस्य	पेडयाइ etc.	(पेडवाइ) पेडवा, पेडा M.
	इक	सौत्रिकम्	सोत्तियं	सोती M. सोती H. सोतिवा GW.	सौत्रिकस्य	सोत्तियस्स सोत्तियास सोत्तियाइ	(सोत्याइ) सोत्या M. (सोतियाइ) सोतिवा GW.
	इ+क	दधि	दहियं	दही M. दही H. दहिया GW.	दध्नः	दहियास etc. दहियाइ	(दह्याइ) दह्या M. (दहियाइ) दहिया GW.
	उ+क	चन्नु	चंडुयं	चाँडूं M. चाँडू H. चाँडुवा GW.	चन्नुकः	चंडुयास etc. चंडुयाइ	(चाँडयाइ) चाँडया M. (चाँडुवाइ) चाँडुवा GW.

* Also Skr. मवेडुका or मवेडकम्।

Translation of an Arabic Pamphlet on the History and Doctrines of the Wahhábis, written by 'Abdullah, grandson of 'Abdul Wahháb, the founder of Wahhábism.—By J. O'KINEALY, C. S., *Calcutta.*

This pamphlet* contains a complete description of the taking of Makkah, and shews that the Wahhábís looked on it in the same light as the Crusaders did the taking of Jerusalem. They entered the holy city not as warriors, but as pilgrims. It is interesting from a historical point of view, as it is a means by which we can test the conflicting statements of Burckhardt and Corancez; but what is of far greater interest is, that it proves, beyond all possibility of doubt, the identity on all important points of Wahhábí doctrines in Arabia with Wahhábí doctrines in India, and confirms the prevalent view that one is the offshoot of the other. Many parts corroborate the statements of Palgrave as to the intolerance of the sect, and there will be found towards the end a list of mortal sins, which are almost the same as those given in his book.

'Abdullah with several other Wahhábís of Najd was put to death in 1818 by Ibráhím Páshá, when the latter took Daráyah. His grandson 'Abdur-Rahmán, and his great-grandson 'Abdul Laṭíf were both alive when Palgrave visited that city in 1862.

TRANSLATION.

In the name of God, the Compassionate and Merciful!

Praise be to God, the Lord of the Universe, and blessing and peace be upon our prophet Muhammad, the faithful, and on his people and his companions, and those who lived after them, and their successors of the next generation! Now I was engaged in the holy war, carried on by those who truly believe in the Unity of God, when God, praised be He, graciously permitted us to enter Makkah, the holy, the exalted, at midday, on the 6th day of the week on the 8th of the month (Muharram), 1218, Hijrí. Before this, Sa'úd, our leader in the holy war, whom the Lord protect, had summoned the nobles, the divines, and the common people of Makkah; for indeed the leaders of the pilgrims and the rulers of Makkah had resolved on battle, and had risen up against us in the holy place (haram), to exclude us from the house of God. But when the army of the true believers advanced, the Lord filled their hearts with terror, and they fled hither and thither. Then our commander gave protection to every one within the holy place, while we, with shaven heads and hair cut short, entered with safety, crying

* The original is preserved among the Government Dihlí MSS. (Arabic MSS., No. 861).

"Labbaika," without fear of any created being, and only of the Lord God. Now, though we were more numerous, better armed and disciplined than the people of Makkah, yet we did not cut down their trees, neither did we hunt, nor shed any blood except the blood of victims, and of those four-footed beasts which the Lord has made lawful by his commands.

When our pilgrimage was over, we gathered the people together on the forenoon of the first day of the week, and our leader, whom the Lord save, explained to the divines what we required of the people, and for which we would slay them, *viz.*, a pure belief in the Unity of God Almighty. He pointed out to them that there was no dispute between us and them except on two points, and that one of these was a sincere belief in the unity of God, and a knowledge of the different kinds of prayer of which *du'á* was one. He added that to shew the significance of 'shirk,' the prophet (may he be blessed!) had put people to death on account of it; that he had continued to call upon them to believe in the Unity of God for some time after he became inspired, and that he had abandoned shirk before the Lord had declared to him the remaining four pillars of Islám. The second point related to actions lawful and unlawful as prohibited. He said that as regards these they retained but the name, while the use, nay any vestige of them, had altogether disappeared.

Then they jointly and severally admitted that our belief was best, and promised the Amír to be guided by the Qorán and the Sunnat. He accepted their promise and pardoned them. Neither did he give any of them the least annoyance, nor cease to treat them with the greatest friendship, especially the divines. And he spoke to them of our faith, publicly and privately giving them proofs of what he believed. We, too, asked them to discourse and confer with us and to speak the truth without reservation. Moreover, we explained to them what the Amír had spoken to them publicly, and pointed out the proofs of it in the Qorán and the Sunnat, and in the conduct of our spotless ancestors, such as the orthodox Caliphs who ruled over their followers. For the prophet had said, "upon you be my Sunnat, and the Sunnat of the orthodox Caliphs after me." We also gave them proofs from the four Imáms, Doctors of Divinity, and those who were instructed by them up to the third generation after the prophet, according to his saying: "Well, for you is my generation, next that which follows, and after it the succeeding generation." Again we pointed out to them that we were searchers after truth wheresoever it might be, and obeyed those proofs which were clear and open without caring whether they were opposed to what our ancestors had or had not done. In fine, they were not able to chide us for a single thing, while we showed them their errors in asking help in their necessities from the dead; and as they had still some a few doubts about it, we removed them by relevant proofs from the Qorán and the Sunnat. They

then acknowledged our belief, and there was not one amongst them who doubted or hesitated to believe that that for which we condemned men to death, was the truth pure and unsullied. And they swore a binding oath, although we had not asked them, that their hearts had been opened and their doubts removed, and that they were convinced whoever said, 'Oh prophet of God!' or 'Oh Ibn 'Abbás!' or 'Oh 'Abdul Qádir!' or called on any other created being, thus entreating him to turn away evil or grant what is good, (where the power belongs to God alone,) such as recovery from sickness, or victory over enemies, or protection from temptation, &c.; he is a 'Mushrik,' guilty of the most heinous form of shirk, his blood shall be shed and property confiscated. Nor is it any excuse that he believes the effective first cause in the movements of the universe is God, and only supplicates those mortals, who are between death and resurrection, to intercede for him or bring him nearer the presence of God, so that he may obtain what he requires from Him through them or through their intercession. Again, the tombs which had been erected over the remains of the pious, had become in these times as it were idols whither the people went to pray for what they required, they humbled themselves before them, and called upon those lying in them, in their distress, just as did those who were in darkness before the coming of Muhammad.

Among those present were Muftí Shaikh 'Abdulmalik ul-Qala'í, a Hanafite, Husain ul-Maghribí, a Málikí Muftí, and 'Uqail bin Yahyá al-'Alawí.

When this was over, we razed all the large tombs in the city which the people generally worshipped and believed in, and by which they hoped to obtain benefits or ward off evil, so that there did not remain an idol to be adored in that pure city, for which God be praised. Then the taxes and customs we abolished, all the different kinds of instruments for using tobacco we destroyed, and tobacco itself we proclaimed forbidden. Next we burned the dwellings of those selling *hashísh*, and living in open wickedness, and issued a proclamation, directing the people to constantly exercise themselves in prayer. They were not to pray in separate groups according to the different Imáms; but all were directed to arrange themselves at each time of prayer behind any Imám who is a (muqallid) follower of any of the four Imáms (may the Lord be pleased with them!). For in this way the Lord would be worshipped by as it were one voice, the faithful of all sects would become friendly disposed towards each other, and all dissensions would cease.

We appointed a ruler over them, 'Abd ul-Mu'ín, the Sharíf, and his rule was established without shedding of blood, and without dishonoring or annoying any person. Praised be the Lord of the Universe!

Afterwards, we gave them a pamphlet, composed by Shaikh Muhammad

on the Unity of God, which contains all the arguments supported by their sentences bearing on it, in the Qorán and the Hadís which are *muwátir*, so that the souls might be comforted. And we compiled from extracts of it a smaller pamphlet fit for the common people which we commanded be distributed in their places of meeting, read in their assemblies and explained to them by the divines, so that by learning the doctrine of the Unity of God, and seizing it with a firm grasp, they might awake to the knowledge of shirk, and become careful. The pamphlet is as follows:

In the name of God, the Merciful and Compassionate!

Know that God has been kind to you, inasmuch as you are the best of the race of Abraham, and worship God in a pure manner. The Lord commanded all mankind to do so, and it was for this purpose He created them, as He said, "I only created the Jins and mankind to worship." Then know that God created you to worship Him, and know that there cannot be worship without belief in the Unity of God, just as He will not listen to a prayer unless offered up after purification. When shirk enters into any form of worship, it vitiates it, as is related in the Hadís. Also He has said, "Mushriks are not in a position to worship the Lord, since they testify against themselves that they are infidels. Their acts shall not avail them, and they shall burn for all eternity." Therefore, whoever calls upon other than God entreating him to grant something which is only within His power, such as obtaining a benefit or avoiding a misfortune, he, indeed, is guilty of *shirk* in his worship, as the Lord has said, "Those who go astray and call upon others beside the Lord, shall not be answered, even until the day of judgment; and those on whom they call, shall not heed them; and when mankind shall rise again from the dead, they will look upon their supplicators as their enemies, and their worship as infidelity." Again, the Lord has said, "Those whom you supplicate other than Me, can avail you nothing. When you supplicate them, they will not hear your supplication, and even should they hear you, they will not answer, and instead of speaking in your favour, they will adjudge you infidels on the day of judgment." In short, the Lord exalted and blessed has declared that entreating others than Him is shirk; therefore, whoever says, "Oh prophet of God," or "Oh Ibn 'Abbás," or "Oh 'Abdul Qádir," or "Oh beloved," &c., thinking that the person supplicated is a way unto the Lord, or an interceder with Him, or a means to Him, he is a Mushrik: his blood shall be shed, and his property confiscated unless he repent. And in the same way, whoever kills an animal in the name of other than God, or makes a vow to him or puts trust in him, hopes to be benefited, or fears to be injured by him, or asks him for assistance in those things which belong to God alone, he is a Mushrik, of whom the Lord has said, those who are guilty of shirk

towards Him, shall not be pardoned; but except these the Lord will pardon whomsoever He wishes! These also are as it were the Mushriks of Arabia, against whom the prophet (may he, &c.!) stood up in battle and commanded to worship with a pure heart. This is evident for four reasons given by God in the Qorán:

1st. It is known that the infidels against whom the prophet (may he &c.!) made war, had admitted that the Lord was the Supporter, the Creator, the Giver of life and death, the Ruler over all things. The proofs of this are the words of the Lord: "Say, who gives you food from the heavens and the earth? who is the Master of hearing and seeing? who calls forth life from death, and death from life? who rules events?" They will quickly say, 'God'. Then answer, "but you do not fear him."

And the Lord has said, "Say, if you know, whose is the earth and what is in it?" They will answer, 'it belongs to God;' then say, "is it not that you do not remember Him?" Again, "say, who is the Lord of the seven heavens, and Lord of the great '*Arsh?* They will answer, 'God.' Then say, "is it not that you do not fear Him?" Say, "if you know, who is he in whose hands is dominion over everything? who can compel, yet not be compelled?" They will quickly answer, 'God.' Then answer, "is it not that you do not fear Him?" After you have known this, and found it difficult to understand, how people who accept the scriptures, can supplicate others than God, turn to the second reason which is as follows:

They say, "we only turn towards and supplicate those departed, that they may intercede with God for us. We ask not from them, but from God, through their intercession." The proofs against this opinion are the words of God, "They worship other than God, that can neither harm nor profit them, and say, "these have interceded for us with the Lord." Answer, "can you inform God of anything either in the heavens or the earth of which He has not knowledge. He is more holy and high than those whom you give Him as companions."

Those who have adopted not God, but others as a patron say, "we only worship them, that they may propitiate us with the Lord; for of a certainty He will decide favourably in matters with which they are concerned." They also hold as opposed to us that God will not point out the way of salvation to infidels or liars." Having understood this, turn towards the third reason, *viz.*, that he who calls on an idol to intercede for him, and he who though abandoning idols yet depends on holy persons, such as Christ, or His mother, or the angels, is in the same position. The proof of this is in the words of the Lord, "Those who seek a means to God, are they nearer Him? They hope for His mercy and fear His punishment, and certainly the punishment of your Lord is severe." And the prophet (may he be &c.!) has said, "There is no difference between those who

worship idols, and those who worship holy persons. They are both infidels." Moreover, we fought with them, until they all turned towards God.

The fourth reason is: The people the prophet speaks of, when in distress, took refuge with God and, forgetting their past conduct, abandoned shirk; while the people of our times, when in difficulties, seek refuge in supplicating their Pírs. The Lord has said, "when they mount their ships, they supplicate God, taking refuge with Him.....besides God." Now, if you understood this, you will perceive that the Mushriks in the time of the prophet (may he be &c.!) were not guilty of such heinous shirk as the wiser Mushriks of our times. The former sought refuge with God in their distress; the latter call upon their Pírs. The Lord is omniscient.

And among the persons who presented themselves before us with the people of Makkah and witnessed our victory in discussion, was Husain ul-Airat'í ul-Hazramí, afterwards al-Hayání. He continued to visit us and sit with Sa'úd and others of the force who were well learned in the scriptures, and he asked us of those matters other than the intercession of Saints, for which our swords were unsheathed. This he did fearlessly, and without any dread, as he was guiltless of any thing wrong in our eyes. So we informed him of our belief which is as follows: We believe, our sect holds the real true religion, is the sect of the Ahl-us-Sunnat and al-Jamá'at, and that our way to salvation is that of the pious ancient departed, most easy and excellent, and opposed to the doctrines of those who hold that the modern way is the best. We construe the Qorán and Hadíṣes according to the meaning apparent on the face of them, and leave the interpretation of them to God, for He is the Ruler. And for this reason that the divines who have passed away, so acted in answering the question as to whether the highest heaven is level or not, which arose out of the words of the merciful God, "The *'Arsh* is level;" they held that "level" was well known, and as it was predicated of *'Arsh*, it was lawful to believe in it, and heretical to question it. We believe that good and evil proceed from God, the exalted; that nothing happens in His kingdom, but what He commands; that created beings do not possess free will, and are not accountable for their own acts; but on the contrary they obtain rank and spiritual reward, merely as an act of grace, and suffer punishment justly, for God is not bound to do anything for His slaves. We believe that the faithful will see Him in the end, but we do not know under what form, as it was beyond our comprehension. And in the same way we follow Imám Ahmad Ibn Hanbal in matters of detail; but we do not reject any one who follows any of the four Imáms, as we do the Shi'ahs, the Zaidiyyahs, and the Imámiyyahs, &c., who belong to no regular churches. Nor do we admit them in any way to

act openly according to their vicious creeds; on the contrary, we compelled them to follow one of the four Imáms. We do not claim to exercise our reason in all matters of religion, and none of our faith demand such a position, save that we follow our judgment where a point is clearly demonstrated to us in either the Qorán or the Sunnat still in force, and though there has been no special command in favour of it, yet there is nothing of weight against it. As a rule, we hold the same as the four Imáms; but we reject all sects in connection with property inherited by our ancestors, and hold them preferred, although it is opposed to the Hanbalí sect. We do not enquire to what sect a person belongs, neither do we abandon the forms prescribed by the four sects, except where we find a clear decision contrary to any of them and the matter is merely an outward observance, such as the action of an Imám at prayers. Hence we direct Malakís and Hanafís equally to collect themselves an instant, when standing or sitting before prostrating themselves at prayers, for on this point the evidence is clear. On the other hand, we do not prohibit the saying of "Bismillah" in a loud voice, as is the custom among Sháfi'ís, neither do we direct it to be said inwardly. Where two contrary practices were in force, and the evidence in connection with each is strong, we declare both allowable, even though this is contrary to any sect. But this occurs only very rarely. The exercise of our reason in some matters of religion is not prohibited, nor can such be deemed contradictory to repudiating the right to exercise our reason in all religious matters; for above all the four Imáms followed their own will in some minor religious observances, even so far as to act contrary to the rules of the sect which they founded.

We make use of the usual orthodox commentaries in striving to understand the Qorán, such as the Tafsír Jarír and its compendium by Ibn Kaṣír the Sháfi'í, and so also the Baghawí, Baizáwí, Kházin, Haddád, Jalálain, and other commentaries. We also use the commentaries of the well known Imáms to explain the Hadíṣes, *viz.*, 'Asqalání, Qustulání on Bukhárí, the Nabawí on Muslim, Manáwí on Jámi'uççaghír, and Mukhawwaç on collections of Hadíṣes, as the Umahát us-sittah, or 'the six mothers,' their commentaries, the different books of all sects in all sciences, all ordinances, histories, grammar, and all sciences, helpmates to other sciences. We do not command the destruction of any writings except such as tend to cast people into infidelity to injure their faith, such as those on Logic, which have been prohibited by all Divines. But we are not very exacting with regard to books or documents of this nature, save if they appear to assist our opponents, we destroy them. As to the destruction of certain books belonging to the people of Ṭáif by the Badawís, that proceeded from their ignorance, they were punished for it and so were others for the same thing. We do not consider it proper to make Arabs prisoners of war, nor have

we done so, neither do we fight with other nations. Finally, we do not consider it lawful to kill women or children.

As to those liars and concealers of the truth who say, that we explain the Qorán according to our own views and only hold those traditions which agree with our opinions, without having recourse to the well known commentaries on the one or taking into consideration the narrators of the other; that we lower the dignity of our prophet Muhammad (may, &c.) and say that he has rotted in his grave, and that any one of us would derive more advantage from his staff than from him; that he cannot intercede for us; that pilgrimage to his tomb is improper; and that he was so ignorant, as not to know positively "There is no God except God" until he became inspired;—we answer, 'only consider that this sentence "There is no God but God" was given forth in Madínah.' Moreover, they say, we do not attend to the sayings of the learned and destroy the writings of those adhering to any one sect, because though partly true, they are also partly false; that being numerous, we proclaim as infidels not only the people of our time, but all since the beginning of the tenth century (Hijrah), except those who hold as we do; that we do not enrol any person in our sect until he admits that he was a Mushrik, and his father died one; that we prohibit the invocation of our prophet (may, &c.) and pilgrimage to his grave even in cases where it is lawful; that whoever joins us, is considered as free of all incumbrances, *even his debts;* that we do not allow the Ahl-ul-bait (may the Lord be pleased with them!) any superior rights; that we compel them to marry inferiors, and that we force those who are old to put away their young wives, in order to marry them to young men among us, although no suit for a divorce has been instituted before us, nor is it desired by the parties. All this is simple nonsense, and when we are asked about them, we only answer in the words of the Qorán, "Praised be you. These are great calumnies." In short, whoever asserts any such thing of us, lies against us. He who has seen how we order our lives, has visited our meetings, or knows what we hold, can affirm that all these have been made up, and that the disseminators of them are enemies of religion, brothers of the devil, who lure men away from offering up their prayers to God, the exalted, in perfect accord with His Unity, and prevent them from abandoning those different kinds of shirk of which the Lord has declared that He will never forgive, though He will forgive whatever else He wishes. We believe that whoever commits a mortal sin, such as putting a Muslim to death, fornication, taking interest, drinking wines, or whoever repeats such, does not cease to be a Muslim, nor will he suffer eternal punishment, provided he dies entertaining a true belief in the Unity of God.

We believe that our prophet Muhammad (may he, &c.) is more exalted by God than any other created being; that he is alive, lives in his grave

a life quicker than that declared by revelation unto martyrs, and that he can hear the salutations of those who salute him. We consider pilgrimage is supported by legal custom, but it should not be undertaken except to a mosque, and for the purpose of praying in it. Therefore, whoever performs pilgrimage for this purpose, is not wrong, and doubtless those who spend the precious moments of their existence in invoking the Prophet, shall, according to the Hadís, obtain happiness in this world and the next, and he will dispel their sorrows. We do not deny miraculous powers to the saints, but on the contrary allow them. They are under the guidance of the Lord, so long as they continue to follow the way pointed out in the laws and obey the prescribed rules. But whether alive or dead, they must not be made the object of any form of worship. This does not prevent us from asking them or any other Muslim if living to supplicate on our behalf. Thus it is related in the Hadís that Al-mar-ul-Muslim asked that his brother might be accepted by God, and 'Omar directed 'Alí to ask Uwais to supplicate that he might be pardoned, and he did so. According to what has descended to us, our prophet Muhammad (may he, &c.) is empowered to intercede for us on the day of judgment, and so also are all prophets, angels, saints, and children. And we shall ask it of the Lord God, the Ruler over it, the Granter of it to whomsoever He pleases to those who are amongst the best of men, the believers in the Unity of God. Thus one of us entreating the Lord God Almighty shall say, O Lord, you have empowered our prophet Muhammad (may he, &c.) to intercede for us, &c. (in the form handed down by tradition), or we shall ask it of the Lord God, the Granter of it to us on the day of judgment. "O God, you have appointed your pure slave (mortal or angel, as may be) to intercede." Thus we shall ask God for those things which must be demanded from Him and not from them. And as regards the things over which God alone has power, no one will cry out "O prophet of God", or "O Saint of God, I ask your intercession," nor will any one say to this "help me", or "intercede for me", or "assist me." Since calling in this manner on those who are dead, but as yet not risen to judgment, is a form of shirk. There is nothing in its favour, either in the Qorán or the Sunnat. The pious departed have not urged it. On the contrary, they have decided that it is shirk of the most aggravated form, on account of which the prophet warred with the world.

To determine the effect of taking an oath in the name of other than God, it is necessary to look to the intention of the swearer. If he intends by the oath to give that respect which is due to God, or more, as happens among certain violent Mushriks of our time, who swear by their Shaikhs—their gods on whom they rely, such false oaths will not be accepted like those sworn in His name, and the swearers are, according to the general opinion of Muslims, Káfirs, guilty of the most heinous form of shirk, ignorant of

the most simple elements of their religion. When an oath is lightly taken, it is not an aggravated form of shirk; but such a habit must be sternly checked and the swearer directed to beg pardon of God.

As to conjunction with God, we hold that when one says, "O Lord, I shall obtain conjunction with you through the majesty of Muhammad," or "through our prophet," or "through the Majesty of your pure servants," or "through your servant so and so," this is a sort of worship, sinful in its nature, (especially as there has been no decision in favour of it), like the practice of invoking the prophet (may he, &c.) in a loud voice, at *Azán* time.

Now as regards the Ahl-ul-bait, a similar question, *viz.* the lawfulness of marrying a Fáṭimite, was asked of the people of Daráyah, and they answered in accordance with former decisions regarding them. It is right to be friendly and on good terms with them, as is stated in the Qorán and the Sunnat. But we must remember that *Islám* is the line of separation between us and the rest of mankind; and that there is neither grace nor goodness without piety which carries with it honor, respect, and reverence. All learned people are guided by it in the question of precedence, between persons nearly equal in age or knowledge, or in advancing to meet such when escorting them to the place of honor. But the custom which is prevalent in some cities, of honoring those who are young and ignorant, even so far that they are angry, beat, wound, or at least quarrel with those who do not kiss their hands instead of shaking them, is not based on any decision, nor is there any evidence in its favour. On the contrary, it is forbidden and should be abolished. If one person kisses the hand of another returning from a long journey, or if he does it to honor him for his learning, or after a long absence, it is harmless in itself, but is objectionable, as it becomes known to those who put faith in such things and creates a custom among proud people. Hence we absolutely prohibit it, especially on account of those of whom it is said as a warning: "It is not possible to close all the places where hunters watch." For this very reason we razed the house of the noble Khadíjah, the wife of our Prophet, the dwelling in which the prophet was born, and other places dedicated to certain Saints in Makkah, so that the people might be warned and flee from shirk, inconsistent with His exaltedness, and which He will never forgive. Shirk is worse even than saying God has a son; the latter makes Him superior to all created beings, the former does away with this superiority. For the Lord has said, "A parable is propounded to you about yourselves:" "What your right hands have obtained, is it for you or for your companions?"

The marriage of a Fáṭimite to a person not a Fáṭimite is not inconsistent with the conduct of Muslims, nor is it wrong. 'Alí and 'Omar-

ibn-ul-Khaṭṭáb so married. These two examples suffice. Sakínah, daughter of Husain-bin-'Alí, married four times, and none of her husbands was a Fáṭimite, or of the tribe of Banú Háshim. Such was the custom of our ancestors, beyond all cavil. We do not compel any person to marry his slave until she demands it, or he is unable to marry his equal. Arabs are all equals for Arabs, and the contrary custom which prevails in many cities, is simply a proof of pride and a desire to exalt one's self, which, as has been foretold, is a certain cause of great evil.

A marriage with an unequal is lawful. Thus Zaid who was a slave married Zainab, the mother of the faithful, a daughter of the Qoraish tribe. This is well known to all sects and is conclusive.

Suppose it is objected by a person not desirous of embracing the truth, that according to our argument, *viz.*, whoever says, "O Prophet of God, I ask you to intercede for me," is a Mushrik, his blood shall be shed, applies to the mass of Muḥammadans of modern times, and above all to the Divines who have believed this, and even despoiled those who opposed it. We answer, that it does not follow. The necessary consequence of a sect is not the sect itself, as is well known. So it is not necessary that we must be Mujassimah, though we speak of the "form" of God, but on the contrary we consider whoever dies in that persuasion is lost. We brand as *Káfirs* only those who having heard our call to the true faith, are deaf to it, and who having heard the proofs in its favour, obstinately reject it. These are the predominant sects, these we war with, so long as they remain in wickedness, prohibit lawful acts, or assist others in committing grievous offences. The non-predominant sects we war with only when they assist the former, are pleased with them, or join them, and thus increase their numbers, becoming as it were predominant with them. Warring with them is commanded. We excuse the past generations. They were not protected from error, and their errors are excusable. And as to those who despoiled of their property such persons as did not agree with them, they were mistaken, and making a mistake is no harm. Indeed, better than they have made mistakes, as we know from the tradition of the woman and the decision about dower. History gives other examples. The companions of the prophet erred, when assembled together, with the prophet in their midst. But his glory penetrated them, and they said to a date tree "give us a sign," and it responded. We say, this is the position of those persons who having fallen away from the right way, subsequently awake to their errors; but not of those who are aware of proofs, know the words and practice of the Imáms, and yet remain persistently opposed to them till they die. We say that there is no harm in excusing persons in the first state, nor do we hold them *Káfirs*, simply because they were in error, or even because they continued so. For none of their time opposed their doctrines either by words,

or the sword and spear. They knew of no proofs to the contrary and saw no clearer way. The greater number of the Musalmáns referred to by our opponents, neglected the advice of those who followed the Sunnat. As a rule they had totally forgotten the Sunnat, and even the few who were enlightened turned away from it before it could make any impression on their heart. The nobles persistently prohibited the multitude from hearing it, and the monarchs tortured those in whose heart its faintest trace could be found, except the few whom the Lord protected. Thus Mu'áwiyah and his friends opposed and fought against the Commander of the Faithful, 'Alí-ibn-Abí-Ṭálib. They were wrong and continued so to their deaths. Yet, though they were in error, as we clearly learn from the Ahl-ul-bait, that none of our pious ancestors considered them Káfirs according to Ijmá', or even very wicked; on the contrary they judged them worthy the reward of warriors in the cause of religion. So when we find a man orthodox in matters of faith, pure, pious, clean of heart, and seeking to benefit his sect by devoting his time to learning the useful sciences, or writing about them, we do not call him a Káfir, though he may hold wrong opinions on these or other points. This was the position of Ibn Hajar ul Haiṣamí, yet we consider his writing as well ordered, do not deny his knowledge for a single instant, but on the contrary take great care of some of his books, such as the Sharh ul-Arba'ín, the Alzawájir, &c., believe what he has copied, and though in error in one point, he is one of the Divines of Islám with whom we hold. Any person of experience and wisdom, who is just and free from any leaning towards hard-heartedness or oppression, looks more to what is said than who says it. Again, the customs and habits of people in authority are obligatory. It matters not whether they are just, or unjust, exact imitations of those of whom God has said, "We found our fathers among them following their religion, and we, coming after them, imitate them in their customs and vices," who form a decision of what is right from the individual and not of the individual from his acts. With these last we seek no conversation; but we use the sword until they are truly and sincerely converted.

And, praised be the Lord, the army of the true believers in the Unity of God was victorious, its standards were unfurled under most auspicious circumstances, and "soon shall those in darkness see what turn their affairs shall take." Moreover, we were the more numerous, and God has said "our armies shall be greater in number," and so we were bound to assist the faithful and reward the religious.

As regards Bid'at, our doctrine is that Bid'at is whatever has been introduced after the third generation from Muhammad and is absolutely sinful. This is contrary to the doctrines of those who divide it into good and bad, and those who divide it into five kinds, unless as appears probable they mean to consider as "good" the acts of the pious departed which were optional,

mandúbah, and obligatory, and call it "bid'at," while "bad" refers to those acts which are unlawful or prohibited. There is no harm in so grouping them.

Among the forms of sinful bid'at which we prohibit, is raising one's voice at Azán time, on Friday night, during the Ramazán, or at either of the 'Ids (in Makkah we set aside every thing connected with *tazkír* and *tarkhím* as sinful according to the Divines of every sect), also reading the Hadíṣes of Abú-Hurairah before the Khaṭíb on Fridays, which is denounced as Bid'at in the Jámi'-uṣṣaghír; assembling on certain particular occasions to read the story of the prophet's birth and believing that it is a special kind of prayer, even though the members of the assembly have no knowledge of history. There is no precedent for this. Again, we forbid people taking to themselves Pírs, or assembling to invoke their Pírs; calling on their Pírs with a loud voice, offering *fátihahs* to them, or seeking to obtain important advantages through them. For example, we prohibit the *rátib-us-Samán* and the *rátib-ul-haddád* as included in the more heinous form of shirk, for which we are ready to battle.

If any person abandon the right way, follows customs which are not Sunnat but Bid'at, and subsequently refuses to give them up, he is punished by the Magistrate, such punishment as shall seem fit until he repents.

We do not prohibit people from reading frequently pamphlets composed from extracts of the Qorán and Sunnat; and as to blessing the prophet, repeating his name, &c., begging pardon from God, reading the Qorán, &c., all these are commanded by the Law. Whoever exerts himself in such duties will be rewarded, and as his prayers increase, his reward increases in a greater proportion,—provided he offers them up according to law, without changing the words or the form of them. For God has said, "Call on your Lord secretly as a suppliant." And again, "God has beautiful names, call on him by them." The Kitáb-ul-Izkár is full of praises of God, whoever is a seeker of his God can be so with this book, which is in itself sufficient for religious people.

Among those things which we prohibit is the custom of reciting verses in praise of the prophet, and at the same time blessing him, that of repeating his name or reading it after Taráwíh prayers under the belief that it is a form of prayer. Indeed, multitudes are under the idea that this is a custom undoubtedly handed down from our ancestors, and hence we forbid it. But the Taráwíh itself is Sunnat, and there is nothing wrong in assembling to read it, or even in repeating it very often. Another form of Bid'at is the custom of reading the five prayers, which are *farz* after the close of Friday in the Ramazán. This has been prohibited by Ijmá', and we punish it most severely. There are other forms of Bid'at, such as taking the name of God in a loud

voice, when lifting a corpse or when sprinkling the grave with water. No authority for such has descended from the pious departed. In conclusion, it is as well to point out that Shaikh Al-Ṭarṭúsí-al-Maghribí has written a book called 'Al-báis fí-inkár-il-bida' wal-hawádig, and that Abú Shámah al Muqrí has compiled from it a shorter pamphlet, which should be in the hands of all who are earnest in their faith.

We prohibit those forms of Bid'at that affect religion or pious works. Thus drinking coffee, reciting poetry, praising kings, do not affect religion or pious works and are not prohibited, so long as they are not mixed up with acts of the nature above described, neither do we prohibit *I'tikáf* in a mosque in the belief that it is a pious act. Thus Hasan told 'Omar ibn al Khaṭṭáb, Commander of the Faithful, that he had sung before one who was better than he, and 'Omar allowed him to sing.

All games are lawful. Our prophet (may, &c.) allowed Al-Habshí to play in his mosque on the 'Id day. So it is lawful to chide and punish persons in various ways; to train them in the use of different weapons; or to use anything which tends to encourage warriors in battle, such as a war-drum. But it must not be accompanied with musical instruments. These are forbidden, and indeed the difference between them and a war drum is clear. However the Daff is allowed at marriages. The prophet (may, &c.) has said, "Impurity has descended to us with purity." And again, "tell the Jews that our faith is not difficult."

We hold that Imám bin Qayam and his Shaikh are true Imáms, followers of the Ahl-us-Sunnat, and we hold their writings in the greatest respect, save that as regards them we are on every point *ghair-muqallid*, and every one of us is allowed to accept or reject their opinions, or the opinions of any person except those of the Prophet. It is well known that we hold opinions opposed to the Imáms on several points. Thus as regards giving three divorces in one assembly, in one sentence, we hold it obligatory following the four Imáms. We hold waqf proper, vows allowable, and their proper performance obligatory. Among the many forms of *bid'at* which we forbid, is offering up Fátihahs to Pírs after the five daily prayers; lauding them immoderately, and seeking conjunction with them after the manner in many cities.

Consolidating prayers, though considered by some as a most pious act, is as a rule a temptation towards shirk, though persons do not perceive it. For shirk is so imperceptible, that people are often unwittingly guilty of it. If not, why should our prophet (may, &c.) have sought protection from it, *viz.*, "O Lord, you have guarded me against knowingly committing shirk. Pardon me, if I have done it unwittingly. To you are known the most secret things." It is absolutely necessary that people should hold to these words, and avoid shirk as much as possible. And 'Omar ibn ul Khaṭṭáb

said, "The handle of Islám, that best of handles, will be broken." Then they asked "when," and he answered, when some Moslems know not the state of ignorance before the Prophet, &c. For these will do shirk and yet believe that it is a pious act. O God, guard us from backsliding and grant that our faith may not be impaired!

This is a short account of the heads of the conversation which, as already mentioned, we held with Husain ul-Airat'í. He often asked us to put it in writing, and as he was importunate, I have done so, but without referring to our religious books, as I have been busily employed in superintending matters connected with the Holy War. But whoever is desirous of knowing our belief, let him come to us at Daráyah, and he will see what will gladden his heart, and his eyes will be pleased in reading the compilations on the different kinds of knowledge, especially the Tafsírs and Hadíṣes. He will see God praised in a pleasing manner; the assistance He gives in establishing the true faith; the kindness, which He exerts among the weak and feeble, between inhabitants and travellers.

We do not deny the doctrines of Çúfís, nor the purification of a person's soul from the stains of sin in deed or thought, provided the person who holds them is firm in his religious observances, and treads the straight road as marked out. But we do not undertake to carry it out in all our acts and deeds. Nor do we turn towards, ask assistance, or beg for aid from other than the Lord God, to whom alone we turn in all our acts. He is our Agent, our Master, our Deliverer. May peace and the blessing of God be upon our prince Muhammad and on his family and his companions!

'Abdullah, son of Muhammad, son of 'Abdul-Wahháb, wrote this in Muharram, 1218. [April, 1803, A. D.].

Notes on Sunárgáon, Eastern Bengal.—*By* Dr. J. Wise, *Dháká.*

[With a plan and a plate.]

Sunárgáon, or, as the Hindús called it, Subarnagrám, was the capital of a Hindú principality anterior to the invasion of Muhammad Bakhtyár Khiljí, A. D. 1203. At the date of the invasion, Lakshman Sen, of the Vaidya caste, was on the throne. He had made Nadiá his capital. Defeated he fled to the residence of his ancestor Ballál Sen in Bikrampúr, and either from there or Sunárgáon he ruled over the eastern districts. The natives of Bikrampúr still point out with pride the square moat of his palace, which is called "Ballál Bárí."

The next thing we hear of regarding this part of the country, according to Mr. Taylor,* is that it was governed by Muhammadan Qázís. One

* Topography of Dacca, page 67.

resided at Bikrampúr, a second at Sunárgáoṇ. The only one whose name has survived, is Pír Ádam, or, as he is called by the Muhammadans of Dháká, Ádam Shahíd.*

Local tradition represents Ballál Sen as ruling at Rámpál, about a mile from where the tomb now is, when Pír Ádam suddenly appeared with an army and caused pieces of cow's flesh to be thrown into the palace, which so enraged the monarch, that he marched against his enemy and killed him while at prayers on the spot where the masjid now stands.

The Hindú army is further stated to have been totally defeated at 'Abdullahpúr, a few miles to the west. It would appear that this tale has some foundation of truth. If there were two Ballál Sens, the later one the son of Lakshman Sen, the difficulties connected with this part of the history of Bengal disappears. That shortly after the invasion of Bakhtyár Khiljí officers of his penetrated into and subdued Eastern Bengal is certain; for if we follow Muhammadan historians, we find that in A. D. 1279 Ṭughril, or, as he styled himself, Sulṭán Mughísuddín, was Governor of Eastern Bengal, and his seat of government was Sunárgáoṇ. At that date he invaded Jájnagar† or Tiparah, and having carried off much treasure, he refused to remit any of it to Dihlí.

The reigning monarch Ghiyásuddín Balban sent an army against his insubordinate deputy. It was defeated. A second shared the same fate. The emperor then marched in person against the rebel, and occupied Sunárgáoṇ, having been joined in his advance by Dhinwaj Rái,‡ zamíndár of the city, with all his troops. Ṭughril fled, but was overtaken and slain, A. D. 1282. Having heard of the death of his enemy, Balban returned to Sunárgáoṇ, and put every one of Ṭúghril's family and his principal adherents to death. Not content with this barbarity, the historians record that he executed a hundred faqírs with their Qalandar, because they had instigated Ṭughril's rebellion, and had accepted from him three *mans* of gold to maintain their society.

Balban, having subdued the district, conferred the ensigns of royalty on

* His tomb at a village called Qází-qaçbáh, south of Riqábí Bázár in Bikrampúr. It was surrounded by a wall and put in thorough repair about a hundred years ago. For centuries a lamp was placed every night on his grave; but the greater enlightenment of the present day, under Farází instruction, has put a stop to such profane rites. Adjoining is a six-domed masjid, with beautiful carved stone and brick-work in the interior. The inscription bears the name of Jaláluddín Fath Sháh, and the date is A. H. 888 (1483); *vide* J. A. S. B. for 1873, p. 286.

† The *modern* tradition in Tiparah is that the old name of the district was Jaházнagar, or the "city of ships." This is evidently founded on the circumstance that, at a much later period, the revenue for the support of the nawáṛá, or imperial fleet, was derived from lands in this district.

‡ This is probably the same person as Dhinaj Madhub, who is believed to have been a grandson of Ballál Sen.

his second son Bughrá Khán, or Náçiruddín Mahmúd, and returned to Dihlí, where he soon afterwards died.

Bughrá Khán was succeeded in the government of Bengal by his sons, who resided chiefly at Lak'hnautí. About A. D. 1318, Shihábuddín Bughrá Sháh obtained the throne. His reign is believed to have been short. His brother Ghiyásuddín Bahádur deposed him, and assumed the title of Bahádur Sháh. The deposed monarch retired to Dihlí, and secured the intervention of Ghiyásuddín Tughluqsháh on his behalf. In 1323, the emperor in person advanced with an army to Sunárgáon. The usurper submitted, and was sent with a rope round his neck to Dilhí. An adopted son of the emperor, Fath Khán, was left in charge of Sunárgáon with the title of Bahrám Khán. He is said to have ruled his province "with much equity and propriety" for fourteen years. His death, which occurred at Sunárgáon, is fixed at A. H. 739 (A. D. 1338). From other sources, however, we learn that Bahádur Sháh struck coins at Sunárgáon in A. D. 1327, on which he acknowledges himself a vassal of Muhammad Tughluq. Two years afterwards, the coins bear the impress of his own name. It is conjectured that on the accession of Muhammad Tughluq, A. D. 1325, he reinstated Bahádur Sháh in the government of Sunárgáon, and that having rebelled again he was again defeated, and this time put to death. His dead body, Ibn Baṭúṭah tells us, was flayed, his skin stripped, and in this state circulated in all the provinces of the empire as a warning to other governors. It was probably at this later date that Bahrám Khán was elevated to the government of Sunárgáon.

In the following year, Bengal revolted from Muhammad Tughluq. The revolt was headed by Fakhruddín Mubárak, who had been 'siláhdár' or armour-bearer, to Bahrám Khán, and who now assumed the title of Sháh. Qadar Khán, Governor of Lak'hnautí, by order of the emperor, advanced towards Sunárgáon and totally defeated Fakhruddín, and took possession of Sunárgáon. Fakhruddín, though a fugitive, did not remain idle. He sent emissaries into the city who bribed the soldiers to kill Qadar Khán under the promise of distributing the treasure among them. The soldiers murdered their commander, and Fakhruddín returning put to death the wives and dependents of his rival. From A. D. 1339 to 1349, Mubárak Sháh held undisputed rule over Sunárgáon. He was succeeded by Ikhtiyáruddín Ghází Sháh, of whom nothing is known.

In 1341, Ibn Baṭúṭah travelled in Bengal, and visited Sunárgáon, but he gives us no description of the city. He narrates that Shaidá, formerly a faqír, having been appointed náib of Sátgáon, revolted and fled to Sunárgáon. Fakhruddín sent an army to besiege the city; but the inhabitants, afraid for their lives, seized the unfortunate Shaidá, and sent him prisoner to the king who put him to death.

Ghází Sháh succumbed to Shamsuddín Ilyás Sháh, who struck coins in Sunárgáoṇ from 753 to 758 A. H. (A. D. 1352 to 1356). It was during his reign that the independence of Bengal was for the first time recognised at Dihlí.

On the coins Sunárgáoṇ is designated "Hazrat i Jalál," a title afterwards given to Mu'azzamábád,* which was made the mint city, probably in the reign of Sikandar Sháh, son of Shamsuddín. The name of Mu'azzamábád is found on coins from 1358 to 1379; but others with the name of Sikandar Sháh, and stamped at Sunárgáoṇ, with the years from 1355 to 1362 marked on them, have been deciphered.

In 1367, Ghiyásuddín, son of the reigning monarch, rebelled and fled to Sunárgáoṇ; there he collected an army and marched against his father. The two armies met at Gowálpárá, near Ja'farganj, in the Dháká district, and nearly opposite the junction of the Ganges and Jabuná. The father was carried off the field mortally wounded. Eighty years† ago, his tomb was still pointed out in the neighbourhood. Ghiyásuddín, whose title was A'zam Sháh, ascended the throne. He is chiefly famous for his correspondence with the poet Háfiz, whom he tried to induce to come and reside at his court. It is this monarch's tomb that is still shown at Sunárgáoṇ (*vide* below and pl. VIII).

Sunárgáoṇ in the 14th century seems to have been renowned for holy and learned men, and history informs us that Jait Mal (Jaláluddín), when he abandoned the Hindú religion, summoned from Sunárgáoṇ Shaikh Záhid, to instruct him in the doctrines of Islám and direct him in the management of his kingdom.

It was probably about this time that Sunárgáoṇ swarmed with pírs, faqírs, and other religious mendicants, to a greater extent perhaps than any other Indian city. Amidst the ruins and forest of modern Sunárgáoṇ natives assert that at least 150 "gaddís" of faqírs are distinguishable. Why they should have resorted to this distant city, is difficult to explain.

In 1582, the kháliçah, or exchequer, lands of Bengal were settled by

* About twelve miles north-west of Sunárgáoṇ, on the opposite bank of the Brahmaputra, is an old village, which gave its name to one of the parganahs of Sirkár Sunárgáoṇ, called Mu'azzampúr, which Mr. Blochmann identifies with Mu'azzamábád. The only old building there now is the Dargáh of Sháh Langar. It attracts Muhammadan pilgrims from long distances, who make offerings on a stone which is believed to bear the holy man's foot-print.

† The tomb of this monarch is, I believe, still shown in the famous Adínah mosque at Paṇḍuah, built by him. The tradition, however, in this District is that he was buried where he fell. On the west of Ja'farganj, where the Jabuná flows at the present time, stood a village called Goáriah, where a Dargáh of Sikandar Sháh, and a langarkhánah, or hospital, erected by Jahángír, are said to have been. The "oldest inhabitant" is positive, however, that this dargáh was that of a faqír, and not that of a king.

Rájah Todar Mal. The ninth sirkár was Sunárgáoṇ. Its boundaries were the Brahmaputra on the west, Silhaṭ on the north, and the then independent principality of Tiparah on the east. It included the present large parganah of Bikrampúr in Dháká, Baldák'hál, Dak'hin Shahbázpúr, Dánderá, Chandpúr in Tiparah, and Jogdiah in Noákhálí.

It is noteworthy that the city of Dháká was included in the seventh sirkár, that of Bázúhá.

In 1586, Mr. Ralph Fitch visited Sunárgáoṇ. He is the only English traveller who has left any description of it. He found the country in a very unsettled state. The great city of Sripore* at the junction of the Megna and Padda or Kirtumnásá was in rebellion under its chaudharí or chief-magistrate against the reigning monarch "Zibaldim Echebar" (Jaláluddín Akbar).

From Sripore Mr. Fitch proceeded to Sunárgáoṇ, which was only five leagues distant. "King Isacan" ('Isá Khán) then ruled the city.

Owing to the incursions of Portuguese and Mag marauders, the seat of the Muhammadan government was transferred from Rájmahall to Dháká in 1608. It is interesting to mark how the name of Sunárgáoṇ now disappears from the writings of the early European travellers, and that of Dháká takes its place. It is not named by Linschoten (1589), and Sir T. Roe (1615) mentions that the chief cities of Bengal were "Rajmahall and Dekaka." Sir J. Herbert (1630), however, includes Sunárgaoṇ with Bucola, Seriepore, and Chatigam, among "the rich and well-peopled towns upon the Ganges." Mandelsloe (1639) writes of "Rájmahall, Kaka or Daka, Philipatum, and Satigam." In the "Cosmographie" of Peter Heylyn, published in 1657, Sunárgáoṇ is placed on an island in the main stream of the Ganges.

Of the subsequent history of the city little is known, but the following fact I have ascertained. Sayyid Ghulám Muçṭafá, the representative of a family which has held "lákharáj," or rent-free, land at Sa'dípúr close to Sunárgáoṇ for several centuries, possesses a most interesting document which affords insight into the fate of the city. This document, or 'mahzarnámah,' is a petition from his ancestor to the emperor, soliciting a renewal of the sanad by which the property was held. It is signed by several of the inhabitants of Sunárgáoṇ, and endorsed with the seals of two Qázís of the city. The witnesses testify from their own observation that Sunárgáoṇ was pillaged by the Mags, and that all the papers belonging to the Sa'dípúr family were carried off. Unfortunately this petition has no date to it; but the sanad sent in reply,

* Near Rájábárí, where these two great rivers meet, an island called Srípúr has always existed. There is still a tradition that it was formerly a place of great trade. At the present day, this island has joined on to the main land and is called Srípúr Tak, *i. e.*, Srípúr Point. There was formerly a custom-house here, where *sáyir*, or transit duties were collected by the government.

signed by Sháh Jahán, bears the date A. H. 1033 (A. D. 1623). As Jahángír was then reigning, his son Sháh Jahán probably signed for his father. This supposition is confirmed by the words "A'lá Hazrat," which are used to distinguish the monarch.

From that date until the present, nothing is recorded of Sunárgáon. In Major Rennell's "Memoir," published in 1785, he describes the city as having "dwindled to a village." In 1809, Dr. Buchanan came to this part of the country with the intention of visiting Sunárgáon. The parganah* he found was called Sunárgáon; but he was told that its proper name was Udhabganj.† He was also informed that Subarnagrám, or Sunárgáon, had been swept entirely away by the Brahmaputra, and had been situated a little south from where the custom house of Kálágáchhí now stands. This information was very incorrect. The city that tradition places south of Kálágáchhí was Srípúr, and is nearly fifteen miles south-west of Sunárgáon.

Sunárgáon is often mentioned by Muhammadan historians; but Mr. Blochmann informs me that it is not described by any of them. By Ibn Baṭúṭah it is designated as "impregnable," or, as the word may be also rendered, "inaccessible." On his arrival at Sunárgáon, Ibn Baṭúṭah found a junk preparing to sail for Java, which proves that even in the 14th century it must have been a mart of some importance.

It is to Mr. Ralph Fitch, "Merchant of London," that we are indebted for the only extant account of the city. He writes: "Sunárgáon is a town five leagues from Sripore, where there is the best and finest cloth made of cotton that is in all India. The chief king of all these countries is called Isacan, and he is chief of all the other kings, and he is a great friend to all Christians. The houses here, as they lie in most part of India, are very little, and covered with straw, and have a few mats round about the walls and the door, to keep out the tigers and the foxes; many of the people are very rich. Here they will eat no flesh, nor kill no beast; they live on rice, milk, and fruits. They go with a little cloth before them, and all the rest of their body is naked. Great store of cotton cloth goeth from hence, and much rice, wherewith they serve all India, Ceylon, Pegu, Malacca, Sumatra, and many other places."

About the same period, according to the Áín-i-Akbarí, sirkar Sunárgáon was renowned for the very beautiful cloth called kháçah, fabricated there, and also for a large reservoir of water in the town of Kayárah Sundar, which gave a peculiar whiteness to the cloth washed in it.

Modern Sunárgáon.—The following account of the old buildings of Sunárgáon was the result of a visit made in January, 1872. It includes a description of all that are known to the residents.

* Montgomery Martin's Eastern Bengal, vol. III., page 43.

† Udhabganj is a village, about a mile east of Sunárgáon on the Mínákhálí River.

I.—*Pánch Pír Dargáh, in Mahallah Bág'halpúr.*—It is in a very ruinous state. The wall surrounding the enclosure has fallen down in places, and several large jungle trees grow close to the tombs, and will ultimately destroy them. The sepulchres of these five Pírs are placed parallel to one another, and are raised about four feet from the ground. The river Brahmaputra must in former days have flowed past them. It was at one time intended to cover the tombs with a roof, but the pillars never rose higher than a few feet. The age of those graves, the names of the holy men, and the country whence they came, are unknown to fame; the natives are satisfied by telling that they came from the 'pachhim,' *i. e.*, west, and they cannot understand why anybody should wish to know more. At the south-west corner of the enclosure is a small uninteresting mosque, which, like the tombs, is rapidly falling into ruin.

This dargáh is considered so sacred that even Hindús *salaam* as they pass, and Muhammadan pilgrims resort to it from great distances. There are only two other shrines to which Muhammadans make pilgrimages in Eastern Bengal—one is the tomb of Sháh 'Alí at Mírpúr, a few miles north of Dháká; the other is the dargáh of Pír Badr Auliyá at Cháṭgáoṇ. The latter is the patron saint of all Hindú and Muhammadan boatmen and fishermen in Eastern Bengal.

II.—About five hundred yards south-east, on the edge of a filthy trench called "Mag Dighí," is the tomb of Ghiyásuddín A'zam Sháh, king of Bengal, and correspondent of the poet Háfiz. This tomb has fallen to pieces. The iron clamps that bound the slabs together have rusted, and the roots of trees have undermined the massive stones. This mausoleum formerly consisted of a ponderous stone which occupied the centre, surrounded by pillars about five feet in height. These stones are all beautifully carved, and the corners of the slabs and the arabesque tracery are as perfect as the day they left the workman's hands. The stones are formed of hard, almost black, basalt. *Vide* pl. VIII.*

At the head is a prostrate sandstone pillar half buried in earth. It was apparently used, when erect, as a *chirághdán*, or stand for a light.

This tomb might be easily repaired, and the cost of doing so would be inconsiderable. There is no old building in Eastern Bengal which gives a better idea of Muhammadan taste than this ruined sepulchre; and there is none, when properly repaired, which would so long defy the ravages of time. The Muhammadans of Sunárgáoṇ are too poor to reconstruct it themselves. They take great pride in showing it, although they know nothing about it but the name of the Sulṭán who is buried there, and they take every care that none of the stones are carried off. Unless Government undertakes the re-erection of this handsome tomb, it is not likely that anything will ever be done.

* The lithograph was made from a photograph taken by Mr. W. Brennand, Principal of the Dháká College.

What increases the surprise of the visitor at seeing this tomb is the contrast between these beautifully carved stones strewing the bank of a filthy hole and the wild luxuriance of the surrounding forest. In close proximity are various tombs, reported to be those of the monarch's ministers. The roots of trees have destroyed them, and nothing now remains to mark the spot except the brick "pushta," which preserves the mounds from being washed away.

III.—The village of Magrápárá is considered by the natives of Sunárgáon to be the site of the ancient city. It has in its immediate neighbourhood several undoubtedly old buildings, and within a short distance is an eminence which still bears the name of "Damdamah," or fort. This mound, which has a magnificent tamarind tree growing on its top, is circular, but no traces of fortifications are visible. It has been used for many years by the Muhammadans as their ''Ashúrkhánah' during the Muharram. On the tenth day, all the garlands and ornaments that are made in place of *ta'ziyahs* are here collected and admired by the people.

In the small market of Magrápárá is the tomb of Munná Sháh Darwísh. At the foot, a light is always burned at night. Every orthodox Muhammadan as he passes the tomb stops and mutters a prayer. This saint, about whom nothing is known, is said to have lived at the same time as the more famous Pír whose tomb stands a little to the north. This latter is called the dargáh of Khúndkár Muhammad Yúsuf. It contains the tombs of the saint, of his father, and of his wife. It consists of two elongated dome-roofed buildings, each surmounted by two pinnacles covered with or formed of gold.

If any attempt is made to steal the balls, the residents assert that the thief will certainly be struck blind. Some hardened sinner, however, has of late years succeeded in cutting off one; but the believers in this tale cannot tell what his fate was. These tombs are destitute of any ornament inside. They are kept scrupulously clean, and are covered with sheets, on which devotees throw a few pith-necklaces. When a ryot has reaped an unusually abundant harvest, he, in gratitude, presents a few bundles of ripe rice at the tomb. If any calamity, as the illness of a member of his family, is threatening, he brings rice, or "batásá," and prays the saint to avert the affliction. Hindús are as confident of the efficacy of this propitiatory offering, and as frequently employ it as the Muhammadans.

Close to the tombs is a modern Masjid with a "kitábah," or inscription, dated A. H. 1112 (A. D. 1700). It was probably erected by the Pír Muhammad Yúsuf. Facing the mosque is a small grave-yard, enclosed by a brickwall. The graves are numerous, but none are of any celebrity. Inserted in the wall at the left-hand side of the entrance is a large, black stone (2 feet by 1½). The natives believe that if a person has lost any

property, he has only to put a coating of lime on this stone and he will infallibly get the property back. It was covered with an inch and three quarters of lime at the date it was examined. On scraping off the plaster a beautiful Ṭughrá inscription was found, with the name Jaláluddín Fath Sháh, A. H. 889 (A. D. 1484).* This is the oldest inscription discovered in the Dháká district, with the exception of the one on Ádam Shahíd's tomb in Bikrampúr, which bears the same king's name and the date, A. H. 888.

On the roadside near Magrápáṛá are two other inscribed stones. The writing on both is continuous. It includes the name and title of 'Alá-uddín Husain Sháh, A. H. 919 (A. D. 1513).†

Close to the tomb above mentioned is a ruined gateway called the "Naubatkhánah," where musical instruments were sounded morning and evening to announce to travellers and faqírs that a place of shelter was at hand. At the back of the mosque are the ruins of a house called the "Tahwíl," or treasury, where, within the memory of many living, feasts were given by the superintendent, or mutawallí, of the mosque. The present holder of this post is too poor to entertain any body. Still further to the north-west are the ruins of the dwellings of the Khúndkárs. It is only within late years that this building, which had an upper room at each end, has become uninhabitable. The last residents taught boys to recite the Qorán. Now-a-days no education is given in any part of Sunárgáoṇ to Muhammadans.

In the Mahallah north of Magrápáṛá, called Gohaṭṭa, is the tomb of a very celebrated Pír, known as Sháh 'Abdul 'Alá, *alias* Poṇkai Díwán. It is narrated that he retired to the forest, where he sat for twelve years so absorbed in his devotions that he was unconscious of the lapse of time. When found, he had to be dug out of the mound the white-ants (poṇka) had raised around him, and which reached to his neck. The same story is told of Valmiki the sage, and of others. This Pír must have died near the end of the last century, as his son Sháh Imám Bakhsh *alias* Chulu Miyáṇ came, within the recollection of many living, from Silhaṭ to die at Sunárgáoṇ. Father and son lie buried close together. At the head of the former is placed the lattice-stone on which he spent his memorable twelve years. The tombs are otherwise of no interest. They are merely mud heaps kept carefully clean and covered over with a grass thatch.

In this same quarter a very large mosque formerly stood which was believed to have been built by the kings. It fell into ruins, and the proprietor sold the bricks to Hindús of Náráyanganj. Muhammadans extenuate this offence by asserting that the proprietor, who was a pensioned deputy-magistrate, was insane when he did it. The foundations even are being dug up. The walls had been eight feet thick. The remains of one of the

* *Vide* J. A. S. B., 1873, Part I, p. 285.

† *Vide* J. A. S. B., 1872, Part I, p. 333.

"mihrábs" still standing, proved that the interior had been ornamented by carved bricks; no inscription was to be found.

IV.—On the road side east of Magrápárá is a small mosque, called the Yúsufganj Masjid. It is rapidly going to pieces, as the dome is covered with masses of pípal trees, whose roots have penetrated into the interior. Its walls are 6 feet 1½ inches thick, which accounts for its standing erect so long.

V.—Beyond the village of Habíbpúr, on the right hand side of the road, is the tomb of "Paglá Sáhib," a very insignificant building. Various stories are told of the reason this Pír received such a singular name. One is that he became "mast," or light-headed, from the intensity of his devotions. Another, that he was a great thief-catcher, that he nailed every thief he caught to a wall, and then beheaded him. Having strung several heads together, he threw them into an adjoining "khál," which has ever since been known as the *munḍa málá, i. e.* necklace of heads. This tomb is so venerated that parents, Hindú and Muhammadan, dedicate at the tomb the "choṇṭi," or queue, of their child when dangerously ill. A little further on, the road crosses a nálah by a very fine Muhammadan bridge of great age. It is generally called the *Kampaní ke ganj ká pul.*

VI.—In a quarter near this, called Bárí Makhlas, is a comparatively modern mosque, erected by Shaikh Gharíbullah, a former jánchandár, or examiner of cloth, to the Company. It bears the date A. H. 1182 (A. D. 1768), and it is still used by the Muhammadans living in the neighbourhood. Its pinnacles are made of glazed pottery, but the building generally is plain and devoid of interest.

VII.—Painám, although a most singular village, possesses few ancient buildings. There is, however, a fine Muhammadan bridge of three arches, called the Dallálpúr pul, over which the road goes to the *Kampaní ká koṭ'hí.* The roadway is very steep. It is formed of bricks arranged in circles of about five feet in diameter. The adjoining bridge leading into Painám village is made in the same way. These circles of bricks are kept in place by several large pillars of basalt laid flat at the toe or rise of the bridges.

The old *Kampaní ká koṭ'hí* is a quadrangular two-storied, native, brick building, with an arcaded court-yard inside. It was a hired house, and is now occupied by Hindú karmakars, or smiths.

In the one street of Painám is a modern and very ugly temple of Shiva, ornamented with numerous pinnacles.

In Amínpúr the ruins of the abode of the royal *kṛoṛí*, or tax-gatherer, is shown. Like all old ruins, it is said to contain fabulous treasures protected by most venomous snakes. A descendant of this family still resides in the neighbourhood. Close to his residence are the ruins of an old Hindú building, the only one existing in Sunárgáon. It is called "jhikoti," a

term applied to a building with an elongated dome roof formed of concrete, and with the walls pierced with numerous openings. It was formerly used for religious purposes.

VIII.—In the division called Goáldih, which consists of dense and impenetrable jungle traversed by a few foot-paths, are two mosques. The first is called 'Abdul Hamíd's Masjid. It is in good preservation, being a comparatively modern structure. Its "kitábah" bears the date A. H. 1116, (A. D. 1705).

About a hundred yards to the south is the oldest mosque in Sunárgáon. The residents call it the *puráná*, or old, Goáldih mosque. Its *kitábah* had fallen out, but had been carefully preserved in the interior. On this stone is inscribed the name of 'Alá-uddín Husain Sháh, A. H. 925 (A. D. 1519).*

This curious old mosque is fast going to ruin; pípal trees are growing luxuriantly on the dome, which is cracked, and will soon fall in, and creepers are clinging to the outside walls and aiding in the destruction.

It is built of red brick. Its exterior was formerly ornamented by finely carved bricks in imitation of flowers, but neglect and the lapse of centuries has left few uninjured. The interior is 16½ feet square. The square walls, as they ascend, become transformed into an octagon. At each corner are quarter domes or arches, and from the intermediate space or "pendentive" the dome rises. As usual there are three "mihrábs." The centre one is formed of dark basaltic stones, beautifully carved and ornamented with arabesque work. The two side ones are of brick, boldly cut and gracefully arranged. The bricks in the archways have been ground smooth by manual labour, and have not been moulded. The pillars at the doorways are sandstone, evidently the plunder of some Hindú shrine. Until twenty years ago this mosque was used for worship. The khádim, or servant, having died, no care was taken of the building, and the dome threatened to fall in, so that worshippers migrated to the modern mosque.

As they do at all the old buildings in Sunárgáon, Hindús *salaam* as they pass this Masjid.

IX.—Beneath a "gúlar," or wild fig tree, near Sa'dípúr is a mound with a large stone inscribed in Ṭughrá characters. Where it came from, or to what it belonged, no one knew. In the inscription the name of Sulṭán Náçíruddin Nuçrat Sháh, A. H. 929 (A. D. 1523), is written.†

This stone was carefully removed and deposited in a place of safety at Sa'dípúr.

X.—The only other memorial of former days worth mentioning is the large Kháçnagar tank, south of Painám. It covers 9¼ acres. The age of this reservoir is unknown. A few bricks on the west side are evidently

* *Vide* J. A. S. B., 1873, Part I, p. 295.

† *Vide* J. A. S. B., 1872, p. 338.

the remains of a ghát. This tank has been gradually silting up, and in the month of April there is only six feet of water in it. In former days its banks were covered with the huts of weavers, who found that its water made their muslins remarkably white. The weavers have died out; but the dhobís who wash clothes in the tank now, assert that the purifying quality of the water surpasses that of any other tank or well.

Regarding the site of the old fort of Sunárgáon the residents can give little information. They state that a fort and a mosque, with its dome made of lac, formerly stood on the east of the modern village of Baid Bázár, where the Megná now flows. This is the most likely place for it to have stood, as it would have protected the city from the incursions of piratical ships coming up the river on the east.

Any account of Sunárgáon would be imperfect that did not mention the changes in the course of the Brahmaputra, which must have had a most important influence in the selection of the site and on its prosperity. It is a curious fact that the Kalika Puráná poetically relates, that when Balarám cut though the Himálayas with his axe to allow a passage for the pent up waters of the Brahmakund, the goddesses Lakhya and Jabuná both sought to marry the youthful Brahmaputra. The god made choice of the former, and their streams were blended into one. Within the last century, however, the waters of the Lakhya have been gradually drying up, while the main stream of the great river has joined with that of the Jabuná.

In the neighbourhood of Sunárgáon are two places connected in story with the earliest Hindú epics. Nangalband, *i. e.*, the place where the plough stopped, is the spot where Balarám checked his plough when he undertook to plough the Brahmaputra from its source. Near this is Panchomi Ghát, where the five Pándú brothers, while in their twelve years' exile, are traditionally said to have bathed. At both of these places thousands of Hindús annually resort to bathe, when the moon of the month of Chait is in a certain lunar mansion. These ancient legends appear to point to a period when the cultivated land terminated at Nangalband. The red laterite soil, which extends from the Gáro Hills through the Bhowál jungles, crops up here and there in the northern parganahs. In Sunárgáon, however, no traces of it are visible. That the alluvium washed down from the hills should first of all be deposited at the termination of this hard formation is most probable, and it was perhaps on this account, as well as on the inaccessibility of the place itself, that the Hindú princes expelled from Central Bengal were induced to found a city here.

In the distribution of the sirkárs of Bengal by Rájah Todar Mall, the Brahmaputra* is said to have bounded Sunárgáon on the west. It does so at the present day; but the stream that bears that name is a shallow

* Ibn Baṭuṭá calls the Brahmaputra *Al-nahr ulazraq*, 'the blue river'.

one. On the north-west of Sunárgáoṇ, however, the dry bed of a river, which at one time must have been three or four miles broad, is still distinct. The Mínákhálí river, which now-a-days connects the Megná and Brahmaputra, was probably the course that the former took at some early date on its way to join the Lakhya opposite Náráyanganj. This supposition is supported by the fact that when Islám Khán built forts to prevent the Mag marauders from passing up the rivers, the site of one was Hájíganj; of a second, "Trivení," the confluence of three streams, (which could only be the Megná, Brahmaputra, and Lakhya); and of a third, Munshíganj; that this was the course of the Brahmaputra in former days seems certain. The old bed of the Brahmaputra still exists at Munshíganj, and on its banks is held the time-honoured fair of the Baruní, or Varuní, in the month of Kártik. The spot where this religious festival is held in honour of "the god of water," is where the Brahmaputra and the Buṛhíganga meet. The Buṛhígangá, or Dhákà River, was the old bed of the Ganges, when it flowed through the great swamps still existing between Nátor and Ja'farganj. Old Sunárgáoṇ would in this case be favourably situated, being protected from the incursions of the hated Muhammadans by the Ganges and Brahmaputra on the west, and from the inroads of the savage hill tribes by the Megná on the east.

In Rennell's maps, published in 1785, the main stream of the Brahmaputra joins the Megná at Bhairab Bázár, as a small branch does at the present day. Seventy years ago, this was, I understand, the route followed in the hot season by all boats going to and from Ásám and Calcutta, and it is not two generations since the Balesar k'hál, which runs through Sunárgáoṇ, was navigable all the year round.

Although it is impossible to fix the date of any of these changes, yet there is every probability that in the days when Sunárgáoṇ was a royal city, its walls were washed by one or other of these great rivers. A visit to the jungle of Sunárgáoṇ, intersected as it is by trenches of stagnant water and obstructed by raised mounds, suggests the idea that formerly the abodes of the people were elevated above the highest tides, and that the city was traversed by numerous canals and natural creeks. No situation could have been better adapted for a conquered people, whose safety lay in the rivers by which they were surrounded and in the boats which they possessed.

The site of the ancient Sunárgáoṇ is covered by dense vegetation, through which a few winding footpaths pass. The inhabitants are few. The children are all sickly and suffering from spleen disease. The men are generally puny, and so apathetic, that they have not the energy to cut down the jungle, in the midst of which their houses are buried. In the rains all locomotion is by boat. The stagnant holes and swamps of the

cold season are then practicable, and the small native boats are punted throughout the jungle between the artificial mounds. In the cold season, these holes contain the most offensive water, laden with decaying vegetable matter. On the banks the largest alligators are seen basking contentedly. The trees are chiefly mangoes, the remains of former prosperity. One decayed stump at Sa'dípúr is still shown as the identical tree of which the unfortunate Sháh Shujá' ate while he halted at Sunárgáon. This variety is still called "Shujá'-pasand." Throughout the jungle wild guava, bel, almond, and ber trees are found. It is told by the residents with pride—as if the fact reflected honour on Sunárgáon—that one "khirní" tree (Mimusops Kauki) grows there, while in Dháká only two specimens exist. The "guláb jáman" that grows here is reputed to be of unusual delicacy. Sunárgáon pán is celebrated. It is known as "káfúrí," from the aroma it gives off when chewed, and is sold at the price of two bírás (96 leaves) a rupee, while the next quality, "sachí," sells at six *paisá*, and the "sádah" at four to five *paisá*. The "mung dál" is also highly esteemed, and it surpasses in quality that grown in any other part of Eastern Bengal.

"Sárhí bhaja," or fried cream, is not prepared in any other place of this district, although it is, I believe, a common article of diet in Patna. The method of preparing it is only known to the manufacturers. A celebrated kind of *dahí*, or curd, is also made here. It is known as that of "Hari Dás Khání." It sells for four times the price of the country *dahí*.

The manufacture of the fine muslins, for which Sunárgáon was famous in former days, is now all but extinct. English thread is solely used by the weavers, and the famous "phúṭí kapás" is never cultivated. In the Báqirganj district, I believe, a little is still grown, but it is only used in making Brahmanical threads, for which English cotton is inadmissible. The only muslin now manufactured by the Hindú and Muhammadan weavers at Sunárgáon is "malmal." Jámadání, or embroidered cloth, is no longer worked at Sunárgáon, although it is at Dhámrái, Uttar Sháhpúr, and Qadam-Rasúl, in the neighbourhood. The art of weaving the still finer muslins, such as "tan-zíb," "shabnam," and "áb-rawán," is unknown at the present day.

The decay of the cotton manufactures of Sunárgáon dated from the end of last century, when the Company ceased to purchase muslins. Before this change, as much as a lákh of rupees was annually distributed from the factory of Sunárgáon to the weavers, and it is estimated that there were then 1,400 families of Hindú and Muhammadan weavers in and around Dallálpúr. In the whole of Sunárgáon it is said that not more than fifty looms are now at work.

Another cause of the falling off in the manufacture of the finest muslins was the stoppage of the annual investment, called "malbús i kháç."

The zanánah of the Dihlí emperors was supplied with these delicate cloths of Sunárgáoṇ and Dháká; and in Aurangzíb's reign a lákh and thirty thousand rupees were yearly expended under this head.

The unhealthiness of Sunárgáoṇ has been another cause of the decline of the cotton trade, but the most influential of all has been the introduction of cheap English thread, which can be woven into cloth at a much lower price than the native can. A great trade in cotton cloth, chiefly English piece-goods, is carried on at Painam. The majority of the residents are prosperous merchants, who make extensive purchases in Calcutta and Dháká, which are disposed of in the villages around.

The separation at the present day of the Muhammadan and Hindú population of Sunárgáoṇ is unusual. In all the mahallahs to the north and west of Magrápáṛá, nine-tenths of the villagers are Muhammadans, while in those to the east the Hindú greatly preponderate. In Painam again there is not a single Muhammadan. The householders are chiefly ta'luqahdárs, who pay the Government revenue direct to the Dháká treasury. There are ninety of them in this village. There is also a superfluity of Brahmans. In Painam the castes are as follows—thirty houses of Brahmans, sixty-five of Saos, five of Bhúimálís, and the remainder of Barbers, &c. At Amínpúr there is a Government school where the children of these families receive education. The Muhammadans of Sunárgáoṇ are contented to remain uneducated; very few can even read the Qorán, and they have consequently all become Farázís. There are no pírs or faqírs resident at Sunárgáoṇ now. The superintendent of the mosque at Magrápáṛá is a native of Medinípúr, who has not as yet acquired the respect of the people. The one man to whom every one resorts for advice and help, and who is regarded as the most holy pír in Eastern Bengal, is Sháh Karím 'Alí. He was born in Silhaṭ, and his residence for many years has been Jagannáthpúr in the Tiparah district. He is popularly believed to have the power of raising from the dead, and of causing rain to fall at his pleasure.

Sunárgáoṇ is too poor to support saints now, so the saints have migrated to places where the alms of the rich will furnish them with the luxuries which in this degenerate age they find to be necessary.

The Muhammadan women of Sunárgáoṇ are all "pardah-nishín." With the changes in the course of the rivers they have been put to much inconvenience and expense. They are no longer able to visit their friends by stepping into a boat and being rowed to the house. They have either to stay at home, or make the trip in a pálkí.

There are several families in Sunárgáoṇ who claim to be descendants of the old Qázís, but there are none who call themselves Mughuls. Only one man, who is still looked up to as the descendant of an official of the days when Sunárgáoṇ was a royal city, has the unmistakable colour and features of the high-born Tátár race.

Note on a new gold coin of Mahmúd Sháh bin Muhammad Sháh bin Tughluq Sháh, of Dihlí.—By J. G. DELMERICK, ESQ., *Dihlí.*

(With a woodcut.)

Muhammad bin Tughluq Sháh died, according to Ziá i Baraní, near Tattah, on the 21st Muharram, A. H. 752; and three days after his death, Shams i Siráj relates that Fírúz Sháh assumed the robes of sovereignty in camp, and shortly after marched viâ Dípálpúr and Sirsá to Dihlí.

In the meanwhile, at Dihlí, Khwájah Jahán, a relation of the late king and Governor of the Capital, on hearing of the death of Sulṭán Muhammad, placed a boy, aged six years, a son of the late king, upon the throne. The name of this son is not given by either Ziáuddín Baraní or Shams i Siráj, who both write of him as a pretended or supposititious son. Several other Historians whose works I have consulted, are also silent as regards his name or title, but both are correctly given in the Khuláçat ut-Tawáríkh of Suján Rái K'hatrí, a comparatively modern compilation. My edition of Firishtah erroneously calls him Muhammad, the same as his father. Firishtah, however, thought that there was strong reason for believing that the child set up at Dihlí by Khwájah Jahán was actually a son of Muhammad bin Tughluq.

Fírúz Sháh marched to Dihlí, and on his approaching the city, Khwájah Jahán finding that nearly all the adherents of the young king had forsaken him, and joined the popular aspirant, went out himself to Fathábád to meet Fírúz Sháh and to obtain forgiveness.*

Fírúz Sháh personally wished to forgive him, for he was a very old man; but it was deemed impolitic to do so by the royal advisers, and he was therefore decapitated.

The fate of the child, the hapless pageant of royalty, is unknown and has not been recorded; but it is not improbable that he, too, like his aged relative, Khwájah Jahán, met with a tragic end.

Fírúz Sháh entered Dihlí on the 22nd Rajab, 752.





* *Vide* page 285, Vol. III, of Elliot's Muhammadan Historians, by Dowson.

GOLD COIN. Rare, A. H. 752.* Weight, 170 grains.

OBVERSE— يمين امير المومنين غياث الدنيا و الدين

REVERSE— محمود شاه بن محمد شاه بن تغلقشاه السلطان

٧٥٢

* When the coin was exhibited at the April Meeting of the Society, Mr. Blochmann took the date of the coin to be 754, A. H., and interpreted the issue as pointing to an unsuccessful rebellion in Dihlí during the absence of Fírúz Sháh in Bengal; *vide* Proceedings, April, 1874. He also stated that another specimen was in the possession of General Cunningham, C. S. I., who, in 1872, had described it in one of his letters to the Society. Mr. Delmerick has now procured a third specimen, the date of which is distinctly 752 A. H. THE EDITORS.

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Note on a hoard of 543 *Sassanian Coins in the possession of Col. H. Hyde, R. E.—By* The Honorable E. C. Bayley, C. S. I.

(With a plate.)

I enclose for the information of the Asiatic Society a tabulated analysis of a hoard of 543 Sassanian coins, which has recently been acquired by Col. Hyde, R. E., and which he has been good enough to submit to me for examination. As will be observed, it consists wholly of the coins of three kings—Khusrú I. (the celebrated Naushírwán); Hormazd IV., surnamed "Turkzádah;" and Khusrú II. Parwíz. There are 42 coins of Khusrú I., 103 of Hormazd IV., 394 of Khusrú II., besides four the legends on which are not legible, but of which two may safely be assigned to Khusrú II., and the other to one or other of the two preceding kings.

The coins of all other kings are wanting, even those of Varahrán Chobín, the usurper general who contested the succession with Khusrú II.

Whether this is accidental or not I cannot say. It possibly may be due to the calling in and recoinage of the money of his earlier predecessors by Khusrú II., whose own coinage was certainly very large.

The dates on the coins range from the 1st year of Khusrú I. to the 39th (or last) of Khusrú II., that is, from 530 or 531, A. D. to 628, A. D.

There are a few dates missing, notably the first years both of Hormazd IV. and Khusrú II.

There can, however, I think from the character of the hoard be little doubt that it was concealed immediately on the deposition of Khusrú II.

and in anticipation of the troubles which eventually followed that occurrence.

It is then clear of all Muhammadan influence, and this may be a matter of some importance in respect to the marginal marks which are found on the obverse of some of the coins of Khusrú II. The only marks to be found in this hoard are all evidently expressive of the same formula, whatever that may be, which when clearly written, appears to be  , though this is sometimes altered into , &c., apparently carelessly, as may be seen by the gradations in which these last two are derived from the first, which I take to be some form of the word "afzúd."

No such marks are found in any of the coins in this hoard, of earlier dates than the 11th year of Khusrú's reign. They are not found at all on the coins of some mintages, as, for example, on the mintages marked 1, 2, 8, 10, 12, 13, 14, 18, 19, in the accompanying table. I may add, however, that on another coin, *dated* the 20th year of Khusrú II. and with the mint mark No. 8 (*which was not found in this* batch*), I have found another "countermark," viz.:  .

Can this indicate that this separate coin was a mere reproduction of Khusrú II.'s type, struck after his death? for none of the large batch, which were clearly struck in his lifetime, have any other countermark than those I have described.

It is, however, to be said that the application of these marks seems to have been very capricious; for they do not appear, when adopted, to have been continuously used, and they sometimes are not found on the coins of mint cities which show them both on earlier and later dated coins, and similar coins *of the same mint and year* will be countermarked or plain indifferently.

As Mr. Thomas is engaged in identifying the mint cities, I have not made any attempt in this direction; and the only other remark which occurs to me is that apparently the obverses have first been struck and then the reverse, as in process of minting the symmetry of the obverse impression is very frequently destroyed.

N. B. The small figures above the dates in the accompanying table indicate the number of coins (if more than one) of the year in question; thus Khusrú I. 29^2 means that there are *two* coins dated in the 29th year of Khusrú I. of the same mintage.

* It was brought from Herat by Capt. Marsh.

Catalogue of Sassanian Coins, the property of Colonel Hyde, R. E., *brought to India from Baghdád, and apparently constituting one find.*

Mint-mark.	King.	Date in regnal years.	Total.
No. 1*	Khusrú I.	1, 3, 4, 37, 44[2], 45, 47.	8
	Hormazd IV.	2[2], 3, 4[2], 8[2], 9, 10[2].	12
	Khusrú II.	4, 25, 26, 29, 31[2], 35, 37, 38, 39.	10
			—— 30
2	Khusrú I.	7, 29[2], 38.	4
	Hormazd IV.	4, 11[2], 12[2].	5
	Khusrú II.	29, 30, (2 illegible).	4
			—— 43
3	Khusrú II.	18, 31, (1 illegible).	3
			—— 46
4	Khusrú II.	14, 15[2], 17[2], 19, 21[2], 23, 24, 25[2], 26[5], 27[6], 28[2], 29[2], 31[7], 34, 35[1], 36[5], 37[4], 38, and 4 illegible dates.	60
			—— 106
5	Hormazd IV.	3, 4, 5, 8, 9[2].	6
	Khusrú II.	11, 27, 29[2], 32, 35[2], one illegible date.	9
			—— 121
6	Hormazd IV.	5, 11, 12[2].	5
	Khusrú II.	2, 5[2], 12, 14[2], 28, 29, 31[2], 33, 34, 36, 2 illegible.	21
			—— 147
7	Hormazd IV.	8, 9, 11.	3
	Khusrú II.	7[2], 24[2], 25[2], 27, 28[2], 29, 30[2], 32[2], 37, 5 illegible dates.	21
			—— 171
8	Hormazd IV.	4, 10.	2
	Khusrú, II.	15, 20, 27, 26, 28, 1 illegible.	6
			—— 179
9	Khusrú I.	44, 49.	2
	Hormazd IV.	1.	1
	Khusrú II.	10[2], 17, 19[2], 21, 24, 28, 31[2], 37[2].	13
			—— 195
10	Khusrú I.	19, 30.	2
	Hormazd IV.	4, 7[2], 8[2], 9[2], 10[5], 11[2], 12[2], one illegible.	19
	Khusrú II.	2, 19, 21[2], 26, 39, 35, 36[2], 38, one illegible.	11
			—— 227
11	Khusrú I.	46.	1
	Hormazd IV.	8, 10[2], 12.	4
	Khusrú II.	17, 26, 29, 34, 35[2], 36[2], 37, one illegible.	11
	One doubtful.	12.	1
			—— 244

* These numbers refer to the mintmarks of the accompanying plate.

Mint-mark.	King.	Date in regnal years.	Total.
		Brought forward,	244
No. 12	Khusrú I.	45,	1
	Khusrú II.	24^{2}, 25, 26, 31, 32, 37^{2}.	8
			253
13	Hormazd IV.	7, 8^{2}, 16.	4
	Khusrú II.	4, 5, 6, 7^{4}, 8, 15^{2}, 27, 28, 35, 3 illegible.	16
			273
14	Hormazd IV.	7.	1
	Khusrú II.	26^{2}, 31, 32, 35.	5
			279
15	Khusrú I.	5^{2}, 35, 45, 46^{2}.	6
	Hormazd IV.	4^{2}, 9^{4}, 10 11.	8
	Khusrú II.	2, 5^{2}, 6, 11, 13, 14, 21, 24, 25, 27, 28, 31^{15}, 35^{6}, 37^{2}, 38^{2}, 7 illegible dates.	40
			333
16	Khusrú I.	3, 4.	2
	Hormazd IV.	8, 11, 12.	3
	Khusrú II.	38.	1
			339
17	Khusrú II.	11, 21, 29, 31, 34^{4}, 35^{4}, 37, 38, 2 dates illegible.	16
			355
18	Hormazd IV.	4, 11^{2}.	3
	Khusrú II.	29, 31, 37^{2}, 1 illegible date.	5
			363
19	Hormazd IV.	4.	1
	Khusrú II.	24, 26, 28, 31, 32, 35.	6
			370
20	Hormazd IV.	3, 4^{2}, 9, 10, 12^{2}, 13.	10
	Khusrú II.	25^{2}, 27^{2}, 28^{2}, 29^{2}, 31^{4}, 32, 34, 35^{2}, 36^{2}, 37.	22
			402
21	Khusrú I.	44, 1 illegible.	2
	Hormazd IV.	4, 9, 10, 12.	4
	Khusrú II.	3, 5, 7^{2}, 14, 29^{2}, 31^{4}, 35.	16
			424
22	Khusrú I.	47.	1
	Hormazd IV.	10.	1
	Khusrú II.	2, 4^{2}, 8, 10, 23, 24, 25, 27, 30, 31, 37, 1 date illegible.	13
			437
23	Khusrú I.	31, 41, 1 illegible.	3
	Hormazd IV.	12.	1
	Khusrú II.	3, 6, 21, 26, 27^{2}, 31^{2}, 35, 36, 10, one illegible.	13
			454

Mint-mark.	King.	Date in regnal years.	Total.
		Brought forward,	454
No. 24	Khusrú II.	11, 14.	2
			456
25	Khusrú II.	12, 13.	2
			458
26	Khusrú II.	28, 31.	2
			460
27	Khusrú II.	24, 31[2], 33, one illegible date.	5
			465
28	Khusrú I.	26.	1
	Khusrú II.	2, 9, 11, 35.	4
			470
29	Khusrú II.	11, 19, 35.	3
			473
30	Khusrú II.	9.	1
			474
31	Khusrú I.	24.	1
	Hormazd IV.	9.	1
	Khusrú II.	29, 31.	2
			478
32	Khusrú I.	23, 32.	2
			480
33	Hormazd IV.	9.	1
			481
34	Hormazd IV.	12[2].	3
			484
35	Khusrú I.	28.	1
			485
36	Khusrú I.	12.	1
			486
Illegible.	Khusrú I.	8, 29, 45, 47.	4
Do.	Hormazd IV.	7, 10[2], 11.	4
Do.	Khusrú II.	2, 3, 4[2], 5[2], 6[2], 7, 8, 9, 10, 11[2], 12[2], 14, 15, 18(?), 27, 36, 37.	28
			522
Do.	Khusrú I.	1 date illegible.	1
Do.	Hormazd IV.	2 dates illegible.	2
Do.	Khusrú II.	15 dates illegible.	15
			540
Do.	Illegible.	4, 5*, 9*.	3
			543
		* Probably Khusrú II.	

Note on the Pálam Báolí Inscription.—*By* RA'JENDRALA'LA MITRA.

(With a plate.)

A transcript of this record, together with an Urdú translation, has already appeared in Sayyid Ahmad's *Asár us-Sanádíd*, or Description of the Ruins of Dihlí, and an abstract of it in English occurs in Mr. Thomas's "Chronicles of the Pathan kings of Delhi," a new translation of it would have, therefore, seemed to be uncalled for. But a transcript and translation of the record prepared for Mr. Thomas, "differed materially from the text given in the *Asár us-Sanádíd*," and the revised documents were missing when that gentleman wrote his work in 1871. An enquiry was accordingly set on foot by General Cunningham for the original stone, but "it could not be found, and was supposed to have disappeared in the mutiny." (*Opus cit.*, p. 137.) A revised translation of the record now traced at Rohtak by Mr. J. G. Delmerick, who in March placed a rubbing of it at the disposal of the Society, will, therefore, not be unwelcome to oriental antiquarians, particularly as the names given by Mr. Thomas do not appear to have been correctly transcribed.

The object of the inscription is to record the excavation of a Báolí in the neighbourhood of Pálamba, the modern Pálam, in the Dihlí district. The name of the person who caused the Báolí to be excavated was Uḍhḍhara, and not Uṭara, as read by Bábu Rámsaran Dás for Mr. Thomas. He was a petty zamíndár or Ṭhákur, but of good lineage, as the eulogist states that his family had a place in a genealogical work of some repute at the time. Uḍhḍhara's father came from the village of Uchhápur near the confluence of the united streams of the Satlaj, the Biyás, and the Chanáb with the Indus.

The record is dated "Wednesday, the 13th of the wane, in the year of Vikramárka, 1333," = A. D. 1276, and was composed during the reign of Ghiyás ud-dín Balban of Dihlí, whose predecessors are indicated by their regal titles, and not by their personal names. The titles have been Sanskritised, partly with a view to take off their foreign appearance, and partly to suit the exigencies of the metres used. Thus, Shiháb ud-dín appears as Sáhabadína साहबदीन, Quṭb ud-dín as Khudabadína खुदबदीन, Shams ud-dín as Samasadína समसदीन, Fírúz Sháh as Pherujasáhi फेरजसाहि, Jalál ud-dín (Raziyah) as Jaláladína जलालदीन, Mu'izz ud-dín as Maujadína माजदीन, 'Alá ud-dín as Alavadína अलवदीन, Náçir ud-dín as Nasaradína नसरदीन, Ghiyás ud-dín asGayásadína गयासदीन. Such lengthening and shortening of syllables is common enough, in the present day, in English poetry dealing with Indian proper names; but the systematic neglect of the sibilants appears unaccountable. The use of the cerebral sibilant for the gutteral k in Quṭb is also remarkable.

The epithets used in connexion with these names are throughout Sanskrit. Quṭb ud-dín is styled a *Bhupála*, Fírúz Sháh a *Bhumipati*, Mu'izz ud-dín a *Nripa*, 'Alá ud-dín a *Nripati*, Náçir ud-dín a *Prithvíndra*, and Ghiyás-ud-dín a *Hammira*, a *Nripati*, and a *Sammráṭ*. These terms, however, have not been used as specific titles, but to indicate the persons named having been kings, with the exception of course of the word *Hammira*, which is a proper name, and is used to imply that Ghiyás ud-dín was a second Hammira in greatness. The praises of this king are sung in the loftiest strain of flattery, deposing even Vishṇu from his role of the preserver of the universe to instal a Moslim in his place. In the same way, the extent of his predecessor's dominion is defined from the Ságar Island, in the Bay of Bengal, to Ghazní, and down to Cape Comorin.

The predecessors of the Paṭháns are described to have been first Chauháns, and before them the Tomáras. The Paṭháns themselves are called S'akas or Scythians, and the word Musalmán or Paṭhán is nowhere used.

Translation.

Srí. Salutation to Gaṇapati. Om! Salutation to S'iva.

1. May He who creates, protects, and destroys this (universe)—may He who irradiates and also immerses in illusion (the minds of) men—may that Hara, who fulfils the desires of his votaries, be the destroyer of the travails of this world to you all!

2. Issuing from whose head the heavenly stream (Ganges) laves the empire in sanctity and prosperity, and, by her ever-undulating waves, serves as a chauri by his side—over whom the rays of the white-rayed (moon) form an orb, like a soothing umbrella—may that S'ankara of illimitable glory be to your welfare!

3. The land of Hariyáṇaka was first enjoyed by the Tomáras, and then by Chauhánas. It is now ruled by S'aka kings.

4. First came S'ahabadína, then king Khudabadína,* then Samasadína, then Pherujasáhi became king.

5. After him Jaláladína, and then were born king Maujadína, the auspicious, and noble king Alávadína, and the lord of the earth Nasaradína.

6. He for whom the earth, from Gauḍa to Gajjana, from the country of Draviḍa to the entirety of Setubandha, all the contented provinces in the great kingdom of Saurájya,† bore vernal floral charms, produced by the rays of the innumerable precious stones and corals which

* The first letter of the name in the original is the cerebral sibilant which for several centuries has been in the North-Western Provinces pronounced like *kh*, and by careless scribes often used for ष.

† A homonym of Saurásḥtra or Súrat, *ráshtra* and *rájya* having the same meaning—a kingdom.

dropped on it from the crowns of the bowed-down heads of kings who come to and fro for his service—

7. he, whose legions daily traversed the earth to both eastward at the confluence of the Ganges (Gangáságara) and westward at the confluence of the Indus with the sea—

8. he, under whose reign courtesans, proudly set off with many coloured raiments, moved about without fear, filling the air with the tinkle of their bracelets, produced by the wanton undulations of their hands—

9. he, the bewildering dust raised by the hoofs of whose cavalry marching in front of his army, overthrew his enemies in front—even he, the lord of the seven sea-girt land, S'rí Hammira Gayása-dína, the king and emperor, reigns supreme.

10. When his horses swept over a high way, the glory of the dust, produced by the pounding of the earth caused by their hoofs, enveloped the quarters and the sky, and the grandeur of the sun with his eternal rays generally so set that kings could not say whether it was day or night.

11. When he issued forth on a military expedition, the Gauḍas abdicated their glory; the Andhras, through fear, besought the shelter of caves; the Keralas forsook their pleasures; the Karṇáṭas hid themselves in defiles; the Maháráshṭras gave up their places; the Gurjjaras resigned their vigour; and the Láṭas dwarfed themselves into Kiráṭas.*

12. The earth being now supported by this sovereign, S'esha, altogether forsaking his duty of supporting the weight of the globe, has betaken himself to the great bed of Vishṇu (the ocean), and Vishṇu himself, taking Lakshmí on his breast, and relinquishing all thought of protection, sleeps in peace on the ocean of milk.

13. The metropolis of this lord of many hundreds of cities, the charming great city, called Delhi, flourishes like a cresent-headed arrow on the side of his enemies. Like the bowels of the earth, it is the store house of innumerable jewels; like the sky, a source of delight; like the nether regions, the abode of many Titanic heroes (Daityas); like Máyá herself, the most bewitching.

14. In that city of Delhi, renowned under the name of Yoginípura, was born Uḍhḍhara, a house-holder, wise, liberal-minded, given to meritorious acts, master of innumerable good qualities, devoid of every blemish.

15. Where the Vitastá, the Vipásá, and the S'atadru, join in front with the uprising, unbroken, and swelling waves of the factor Chandrabhágá; where stood the friendly Sindhu, with its affluents,

* The name of the dwarf Himalayan race is written with the dental t, but the text has the cerebral letter either for the sake of alliteration with Láṭa, or for a new compound of the roots, *kri* "to scatter" and *aṭa* "to go," meaning "whose movements were scattered." The epithets used with reference to the different races, have been so selected as to alliterate with their names.

16. whose waters, when drunk, render the sweetness of honey and of sugarcane, the hydromel of heavenly nectar, even the lusciousness of knowledge, insipid,—

17. where the land is laved by the nectar of that Sindhu and is pure and pain-assuaging; where the town of Uchchapuri reviles and laughs at Amarávati which stands by the side of the heavenly Ganges,—

18. even there was the abode of his father Haripála, whose father was Yasorája. The father of the last was Dallahara, whose father was Kipu. Thus far his genealogy by the father's side.

* The mother of Uḍḍhara was Chaṇḍí, the daughter of Prithu, whose father was Harischandra; the father of the last was Utsahana, the son of Sahadeva, who was the son of Tola.

19. The father of Tola was Vyághrahara, who was the son of Siñha, and grandson of Gaura.

20. In the work entitled 'Vans'ávalí' (genealogy), the two genealogies have been given in detail; here in this record the names have been taken to the extent desired to recall them to memory.

21. Like the threefold will, wisdom, and energy (the S'aktís of the Deity), his wife, with Rájasrí and Ratnadevi, was Jajalá, the eldest.

22. Her son was named Harirája, (pure in body, speech and mind, renowned, the abode of the sixty-four accomplishments, apparently, like Vishṇu, the sole protector of the universe),

23. who had two brothers, named, Thera-rája and Jautra, and a sister Viraḍá. The daughter of the second wife was the liberal-minded Dhanavatí.

24. Her (the second wife's) two sons were Gunarája and Bhupati. Of the youngest wife, Ratnadeví, the son was Haradevanátha, and a daughter.

25. She had also another son, Uttamarája, and a daughter named Saḍalí. Thus we have here the root, stem, branches, fruits, and flowers† of this tree of desire.

26. Numerous and extensive were the alms-houses (Dharmásálás) established by this performer of sacrifices (Aḍhḍhara) in different places. He, the wise, with a view to remove the exhaustion of tired travellers, caused a well to be excavated,

* This stanza has not been numbered in the original; and the subsequent ones are numbered consecutively after the last preceding verse.

† The word as far as can be made out, reads like *Kunduvakam*. *Kunda* and *vaka* flowers. It may be also read *Kumudakam*, waterlily; in either case the name of one or more specific flowers, and not a term for flowers in general, which the context requires.

27. to the east of the village of Pálamba and west of Kusumbhapura. He made the well which allays thirst and removes fainting.

28. May this well, like a lovely woman with rotund upheaving breasts, gorgeous with undulating necklaces, the assuager of the thirst of many a love-sick swain, and decorated with the seried riches of flower-tufted plants,* be to your gratification.

29. Through its effects men, even when overpowered by many evils, are made to smile. Priding on this power of assuaging fatigue, it appeared to philosophers like Vidyá herself (divine knowledge which overcomes the tribulations of the mind).

30. May this be to the welfare of the noble Uḍhḍhara Ṭhakkura for the enjoyment of all the sweets and pleasures of this world in the company of his wives and sons and friends and dependants;—of the person with well governed mind;—of the faithful, for the fulfilment of his good in heaven and for his emancipation;—of him who is devoted to the two feet of the crescent-crested (Maḥádeva).

31. This eulogium is composed by Paṇḍit Jogís'vara of unbroken fame, to record the origin of this well of Uḍhḍhara, the receptacle of all blessings.

In this year of Vikramárka, Samvat 1333, on the 13th of the wane, in the month of S'rávana, Wednesday. [Here follow three couplets in Rájpútáná Hindi, but so full of lacunæ as to be unintelligible.]

॥ श्रीः ॥ गणपतये नमः ॥ ॐ नमः शिवाय ॥

(१)। क्षजति रक्षति संहरतीह यश्चिरयति प्रतिबोधयति प्रजाः। स भवतां भव-तापहरो हरो भवतु भावुकचिन्तितदायकः ॥ १ ॥ साक्षाच्छ्रीभिषेकश्रियमसरघुनो यस्य मूर्द्धि प्रयाता कुर्वन्ती या नरैरविरतविचलचा—

(२)। मरलं प्रयाति। प्रभांभोरंभामालावलयमतिसितच्छत्रचक्रायमाणं मानातीत-प्रभावो भवतु स भवतां शङ्करः शङ्करिण्युः ॥ २ ॥ अमोक्षि तोमरैरादौ चौहाणैस्तदनन्तरं। धरित्रानकभूरेषा शक्रेन्द्रैः शास्यतेऽधुना ॥ ३ ॥ आदौ साहवदीनस्ततः परं पृथुवदीव-भूपालः।

(४)। जातोऽयसमसदीनश्चेत्रजसाधिर्बभूव भूमिपतिः ॥ ४ ॥ पद्माञ्जलालदीनस्तद-नन्तरमजनि मौजदीनस्तपः। श्रीमानल्हावदीनो नृपतिवरो नसरदीनश्चन्द्रः ॥ ५ ॥ आगौडाङ्कक्षणाद्यं द्रविडजनपदात् सेतुबन्धात् समन्ताद्यस्य—

* In the original the epithets are so employed as to apply both to the well and to woman. It is impossible to preserve the double entendres in English.

(४)। नोपपूर्णे सकलजनपदे प्राच्यसौराष्ट्रराज्ये। यत्सेवायातयातश्चितिपतिमुकुटो-
द्दृष्टमद्दरत्नज्वालाजालप्रवाहैर्वहति वसुमती वन्यवासन्तलीलां ॥ ६ ॥ गङ्गासागरसङ्गमं
प्रतिदिनं प्राच्यां प्रतीच्यामपि स्नातुं सिन्धुसमु—

(५)। द्भसङ्गमभङ्गो यत्सैन्यमाधावति। फेलाम्भोलितपार्थिवद्रुहरत्नत्कारेण वारा-
ङ्गना यान्त्यायान्ति च निर्भया यदुदयाच्चित्राम्बराडम्बराः ॥ ७ ॥ यत्सेवायसरत्तुरङ्गम-
खुरप्रक्षेपविक्षोभिताम्भश्चूबुच निवारवन्ति पुरतो दू—

(६)। रेव भूरेणवः। सोऽयं सप्तसमुद्रमुद्रितमहीद्वारावलीनायकः श्रीस्फोरजया-
दीनदेवपतिस्तुवाद् समुज्जृम्भते ॥ ८ ॥ यद्वाटीवेलघावत्तुरङ्गखुरपुटापातसञ्चूर्ण्यमानक्षोणी-
रेणूत्थानिः कवलितककुभि क्षोणि सञ्जायमाने। आदि—

(७)। त्यक्ष प्रतापः स्फिरतरविसरद्दीप्तिभिस्त्राकमलं यातिं प्रायेण राजभ्रष्टतिषु मलना
का च राज्ञी दिवा वा ॥ ९ ॥ यस्मिन् दिग्विजयप्रयाणकपरे गौडा निराडम्बरा अग्रा
रण्यपरायणा भयवशान्निश्चेलयः केरलाः। कर्णाटा अपि कन्दराश्रयपरा अङ्गा मङ्गा—

(८)। राङ्गाल्यश्लेर्ज्याङ्गि(ःकि)लगुर्ज्जराः समभवन् लाटाङ्गि(ःकि)राटा इव ॥१०॥
यस्मिन् राजनि विश्वति क्षितितलं श्रेषोऽपि निःश्रेषतो भूभारं समपास्य वैष्णवमहाश्रय्यापदं
संश्रितः। स्वर्णी वचसि सोऽपि विष्णुरघुना प्रक्षिप्य रक्षाविधौ विन्यासन्नति—

(९)। मात्रदुग्धजलधिर्व्विभाव निद्रायते ॥ ११ ॥ यस्यानेकमहापुरीमतपते राज्ञो
मनोहारिणी ढिल्ली नाम महापुरी विजयते भोगेव विद्वेषिणां। या इन्द्रोव विचित्र-
रत्नखिलया या गौरिवानन्दिनी या पातालपुरीव दैत्यनिलया लोकेव—

(१०)। या मोहिनी ॥ १२ ॥ श्रीयोगिनीपुरमितिप्रथिताभिधाने ढिल्लीपुरे पुरपतिः
सुलतानी बभूव। श्रीमानशेषनृपराजिरपेतदोषो धीमानुदारमतिवद्धरनामधेयः ॥ १३ ॥
वितस्ताविपाशामतटूभिराभिश्चिल्लालल्ला—

(११)। चन्द्रभागा विभागा। पुरस्तादुदञ्चैस्तरङ्गैरभङ्गैः स्थिता यत्र सिन्धुः सुवन्धु-
स्तवन्धुः ॥ १४ ॥ सुधा मधु सुधा क्षीरं सुधा दधि सुधारसः। येन सिन्धुसुधा पीता तस्य
ज्ञानसुधाप्यधः ॥ १५ ॥ तस्मिन्सुदिव्यसुधया परिपीत—

(१२)। भूमिभारक्षमे सकलतापहरे पवित्रे। उच्चैरुदञ्चति यशत्यमरावतीमप्युच्चा-
पुरी सुरजनीतटवासिनीं सा ॥ १६ ॥ तस्यासन्न पिताभूदरिपालखत्पिता यशोराज्ञः।
दुष्टदरक्षणजनकः किंपुरुष पिवेति—

(१३)। पितृवंशः ॥ १७ ॥ उद्धरमाता चक्षी पृथुपुत्री पृथुपिता हरिश्चन्द्रः। उत्पा-
दयोक्ष जनकः सदेवसुतस्तनोलसुतः। तोलपिता व्याघ्रवरः सिंहसुतो मैरपैव इति
॥ १८॥ वंशावलीप्रथिते प्रवन्धे वंशद्व—

(१४)। यं पूर्वमभाषि सम्प्रक्। अथापि तस्य सूनवे प्रशस्तौ नामानि कार्मं प्रतिपादितानि ॥१९॥ इच्छाज्ञानक्रियाशक्तिरूपाखिलोस्र योषितः। राजश्रिया रत्नदेवा आजस्रा श्रेष्ठमेधिनी ॥२०॥ तस्याश्च पुत्रो—

(१५)। स्थिरराजनामा कायेन वाचा मनसा पवित्रः। स्नातस्यतुःषष्टिकलानिधानं प्रत्यक्षविष्णुर्भुवनैकजिष्णुः ॥२१॥ अस्यानुजौ च स्थिरराजजैत्रसञ्ज्ञौ समं वीरतया विभातः। स्वापरस्या अपि मध्यमायाः पुत्रो—

(१६)। पुराभूदलक्ष्मत्युदारा ॥ २२ ॥ गुरुराजभूपती अपि पुत्रौ द्वौ तदनुरत्नदेव्यास्च। हरदेव नाम इति ख्यातः पुत्रोपि कन्यान्या ॥ २३ ॥ उत्तमराजस्तु(:पु)त्रस्याडाली पुत्रिकेत्यपत्ये च। मूलस्तताम्राम्बाकल्पकुन्दवर्क कल्पविट—

(१७)। पिनोस्तेन ॥ २४ ॥ स्थाने स्थाने धर्मशाला विशाला का कारिनाकारि सवादिकर्त्रा। किन्त्वचापि आत्मपान्थश्रमार्त्तिच्छेत्रा वेत्रा वापिका काप्यकारि ॥ २५ ॥ पालम्बग्रामपूर्वे च कुलुम्बपुरपश्चिमे। स्तनाच स्तनिना वापी दत्ता—

(१८)। मोक्षापहारिणी ॥ २६ ॥ पीनोत्तुङ्गपयोधरा परिलुठद्धारावलीविभ्रमा दत्ताभाग्यदनेकजानुकजनक्षेमप्रशान्तिप्रदा। फुल्लन्नीलितरप्रसूनपटलश्रेणिश्रियामोदिता वापी कापि मनोमुदं दिशतु वः कान्तेव कान्ता—

(१९)। इमां ॥ २७ ॥ मानसमपि दधती सतां निजप्रसादेन कलुषमिति विदुषा। निजविज्ञानविधात्री विद्येवाध्यात्मवेदिनां भाति ॥ २८ ॥ अस्तु खलि समस्तवस्तुविषयाभोगोपभोग्यात्मभोक्तृभिः पुनःकलत्रमित्रजनतायुक्ताय युक्ता—

(२०)। त्मने। भक्तायोद्धरदक्षुराय मनसे स्वर्गापवर्गोदयानन्दायेन्दुकलावतंसचरणद्वन्द्वैकनिष्ठात्मने ॥ २९ ॥ ऋक्षप्रकाशेन योगीश्वरेण प्रशस्तिः कृता पश्चिमेन प्रशस्ता। समस्तास्मिन्नामैकपात्रस्य वापीनिमित्तं सुविस्तारस्यत्युद्धरस्य ॥ २० ॥

(२१)। संवत्सरेऽस्मिन् वैक्रमादित्ये संवत् १२२२ श्रावणवदि १२ बुधे ॥ ठ१ किमु सही ᳐᳐᳐᳐ सुरि ठ ᳐᳐᳐᳐ रचिडरोमु ᳐᳐᳐᳐ दूरे ठ ॥ पंचकोसडिल्लाम्बडधंधिधल्लं भयवेसठ ॥ देठ भांसि अठविम्मा दूसरिद्दारंड चिट्ठिवहडद्द संभाडि किम्मुठ किठ ᳐᳐᳐᳐ संसारडमिकद्द कुलेसि डंसि चलचसि ।0। कुहचपं मह मह डे उम्म डिढुमं पविठ ॥ चद्दपकसाम्धं मम उसि 0 तभयेहे उकवसठ ॥

Annals of 'Omán, from early times to the year 1728 *A. D. From an Arabic MS. by* SHEYKH SIRHA'N BIN SA'I'D BIN SIRHA'N BIN MUHAMMAD, *of the Benú 'Alí tribe of 'Omán, translated and annotated, by* E. C. ROSS, *Political Agent at Muscat.*

INTRODUCTORY REMARKS.*

The Arabic work from which the following account of the History of 'Omán is translated, is entitled "Keshf-ul-Ghummeh," or "Dispeller of grief." That work, which forms a good sized MS. volume, is not devoted exclusively to the subject of 'Omán, but contains likewise accounts of other countries, and descriptions of various sects of Islám.

Copies of the "Keshf-ul-Ghummeh" are extremely rare in 'Omán; and out of that country I doubt if it is known, I have only heard of two copies existing. That from which I prepared this translation was lent to me by a gentleman residing at Maskat, a member of the Ál-bú-Sa'íd family. The name of the author was not inscribed on the pages, and no one at Maskat seemed able to supply the omission. At length, one of the Ḳádhís wrote to certain learned persons at Nezwá, who replied that the author was Sirhán-bin-Sa'íd, a native of Izkí or Zikkí.

It would appear that in 'Omán it has been customary with the learned of the priests and Ḳádhís at times to write narratives of contemporaneous events in prose or verse, chiefly touching religious matters. Numerous records of this class are probably in existence, and from such sources it may be that the author of the "Keshf-ul-Ghummeh" has composed his annals of 'Omán. The first part, however, shows acquaintance with some of the standard Arabian works.

The date of the composition of the work can be approximately stated. The narrative is brought down to the year 1728, A. D., and therefore could not have been concluded at an earlier period. The abrupt manner in which it terminates, tends to show that the work was not written much later than that date. The author of the Arabic work translated by the Rev. G. P. Badger for the Hakluyt Society in 1871, occasionally quotes the "Author of the Keshf-ul-Ghemmeh" as making such and such a statement. I have not seen the original Arabic of Mr. Badger's author, but by a comparison of the English version with the "Keshf-ul-Ghummeh," I have

* In the following, pronounce *a* as in *bat*; *e* as in *bed*; *i* as in *bid*; *o* as in *obey*; *u* as in *bull*; *á* as in *father*; *é* as *ee* in *deed*; *ó* as in *note*; *ú* as *oo* in *boot*; *ei* as *i* in *bite*; *ey* as in *they*; *ow* as in *cow*; *th* as in *both* (ث); *th* as *th* in *the* (ذ); *kh* corresponds to خ; *gh* to غ; *dh* to ض and ظ; *h* to ح; ṣ to ص; ḳ to ق; ع is represented by an inverted comma (').

been led to the conclusion that Salíl-bin-Razík* copied the majority of the earlier portion of his book *verbatim* from the "Keshf-ul-Ghummeh." Indeed, when, as occasionally happens, he strays from the pages of that work, the order of events is confused, and many puerilities not observable in the older work are introduced.

The work now translated may fairly be considered, as far as it goes, the most authentic and coherent account of the history of 'Omán that has emanated from native sources. But almost all native works of this sort have striking deficiencies. Trifling details are dwelt on, whilst comparatively important events are only casually alluded to or dismissed without a word. It is left as a task for European students to sift, prune, and supplement the accounts of native historians, and for this purpose no materials are to be despised.

In the original work, the divisions are similar to those adhered to in this translation; only the numbering is different. The account of the migration of Azdites and their settlement in 'Omán forms the 4th Chapter, or Book, of the "Keshf-ul-Ghummeh;" and the rest of the history of 'Omán is found in Chapters 34 to 39 of that work. The intervening portion is on other subjects.

Book I.[1]

An account of the immigration of the el Azd[2] into 'Omán, and the expulsion therefrom of the Persians.

It is said by el-Kelbi that the first of the el-Azd who came to 'Omán was Málik-bin Fahm[3]-bin Ghanim-bin Dows-bin 'Adnán-bin-'Abdullah-bin Zahrán-bin-Ka'b[4]-bin el-Hárith-bin Ka'b-bin 'Abdullah-bin Málik-bin Naṣr[5]-bin el-Azd, the Azdí, the Dowsí. Now the cause of his emigrating to 'Omán was as follows: His nephews, the sons of his brother 'Amrú-bin Fahm, were wont, when taking the flocks to pasture and returning at evening, to pass by the house of a neighbour. The latter had a bitch which used to bark at them and scatter their flocks, and one of them killed it with his spear. The man, who was under Málik's protection, complained to him, and Málik being angered, said he would no longer remain in a country where a person under his protection suffered such treatment; and went forth and separated from his brother[6] against the wish of the latter. Another story is, that a herdsman was set on by a savage dog belonging to a bondsman of "Dows," and slew it with his spear, on which the owner of the dog slew the herdsman. That upland is named "Nejd-el-Kelbeh."[7] Málik then went forth from el-Sarát with those of his tribe who bore obe-

* The name of this person was Hamed-bin Muhammad-bin Razík, the designation "Salíl" signifying "son." He died at Maskat in 1873.

dience to him. When he was well on the road, his camels yearned for their pasture grounds, and turned wistfully towards el-Sarát. But he journeyed on towards 'Omán. And he passed not any tribe of the tribes of the Arabs, of Ma'add or of 'Adnán,[8] but they sought his friendship, and formed alliances with him, on account of his dignity and the number of his fighting men.

He marched on until he reached Rahút,[9] a valley in Hadhramowt, where he halted awhile for rest. Then he learned that the Persians were in 'Omán, inhabiting it. So he drew up his forces and reviewed them, and it is said they were upwards of 6000 in number, horse and foot.

They then arranged themselves in order before proceeding onwards to 'Omán, Málik placed his son Honát,[10] or as some say Feráhid, in command of an advanced guard consisting of 2,000 horsemen of the bravest of his army. When they arrived at el-Shihr,[11] Mahrah[12]-bin Hídán-bin el-Háf-bin Kadhá'ah-bin Málik-bin Himyar separated from Málik, and stayed behind at el-Shihr. Málik marched onwards until he entered 'Omán with his numerous and well equipped army. He found the Persians holding 'Omán for the king Dárá, son of Dárá,[13] son of Bahman; and at that time they were the inhabitants of 'Omán and the dwellers therein. In those days their leader was the Marzabán,[14] who was Lieutenant for their king.

Málik drew aside with his followers to Ḳalhát[15] on the coast of 'Omán, as being a more secure position against the Persians. He there left the families and heavy baggage with a guard to protect them against the enemy's force, and advanced with the remainder of his army; his son Honát leading the advanced guard of 2,000 horsemen. He proceeded in this manner until he arrived at the district of el-Jowf,[16] where he pitched his camp on the plain. Thence he sent to the Persians asking them to allot him land in 'Omán to settle on, with water and pasture, so that he might dwell amongst them. When his messengers arrived, the Marzabán and his subordinates held an earnest and prolonged consultation which resulted in their unanimously deciding to refuse the request of Málik, so they replied: "we do not wish this Arab to settle amongst us, that our land should be-"come straitened unto us; we have no need of his neighbourship." When their answer reached Málik, he sent a message to them, saying: "I must "positively settle in a district of 'Omán; if you accord me willingly a share "of the water, produce, and pasture, I shall settle in the country and praise "you. If, however, you refuse, I shall remain in spite of you. If you at-"tack me, I shall resist you, and if I prevail against you, I shall slay you, "and carry off your offspring, and shall not allow one of you to remain in "'Omán." They, however, refused him permission, and prepared to make war on him. Málik on his part remained in the district of el-Jowf until his people had rested, and he prepared for the struggle with the Persians.

Meanwhile the Persians had made ready to attack him, and the Marzabán ordered the trumpets to be sounded and the drums beaten, and set out with all his host from Ṣohár. It is said his army numbered more than 40,000 men, and some say 30,000, and he had with him elephants. He proceeded towards el-Jowf to encounter Málik, and halted at the plain of Selút near Nezwá. When Málik received intelligence of this, he set out for the plain of Selút with 6,000 men, and encamped opposite the army of the Marzabán. They remained in their respective positions that day without fighting. Málik-bin Fahm spent the night drawing up his forces in order of battle, forming them into right and left wings, and centre, and stationing the horsemen of the el-Azd in position. He placed his son Honát in command of the right wing, gave the left to his son Feráhid, and took his station himself in the centre with chosen men. The Marzabán also was similarly employed, and both sides were prepared. Málik mounted a pie-bald charger, clad in his armour over which he wore a red robe, and on his head was his iron helmet encircled by a yellow turban. His sons and the warriors of the el-Azd were similarly accoutred in armour and helmet, their eyes only being visible.

When the ranks were formed in order of battle, Málik went around and addressed his followers troop by troop, encouraging them and exhorting them to stand firm and warning them that if they fled, they would be pursued and destroyed by the Persians.

The Marzabán then advanced with all his forces under their commanders, placing his elephants in front.

Málik met them with his followers crying out to his men of the el-Azd to charge with him, and to ply the elephants with their swords and javelins.

Thereupon he charged and his men charged with him, and they attacked the elephants with sword and spear, piercing them with darts until the elephants goaded by their weapons turned in flight, trampling under foot many of the Marzabán's men. Málik then fell on the army of the Marzabán with all his men, piercing the ranks of the Persians. The latter rallied together, and the two forces continued to fight with fury, and nothing could be heard but the clashing of their weapons. The battle was kept up the whole of that day until the fall of night separated the opposing armies, and they retired to their respective positions leaving many dead and wounded.

The next day the conflict was renewed and kept up until night, the Persians losing many of their men.

On the third day the battle was again renewed and the Persian commander having been slain by Málik in single combat, the Persian army gave way and fled, losing an immense number in killed and wounded.[17]

The Persians then sent to Málik suing for a truce and demanding a year's time to evacuate 'Omán and return to their own country. Málik agreed to this and promised not to molest them unless they recommenced the war. The Persians thereupon returned to Ṣohár, and Málik withdrew to Ḳalhát.

It is said that the Persians during the period of this truce destroyed a great many water channels. Suleimán-bin Dáúd had constructed 10,000 aqueducts in 'Omán.[19]

The Persians then wrote to Dárá-bin Dárá informing him of the advent of Malik and his followers to 'Omán, and the struggle that had occurred between him and themselves, how his general the Marzabán had been slain with many of their companions. Then telling him of their weak and helpless condition, they asked permission to return to their own country with their families. When their letter reached the king and he read it, he was incensed, and burned with a desire to avenge the slaughter of his soldiers and generals, so he sent for one of the greatest of his Marzabáns, and giving him command of 3,000 of his most renowned warriors and commanders, despatched them to the aid of his subjects in 'Omán. They proceeded first to el-Bahrein and thence to 'Omán. All this while Málik was in ignorance of what was going on.

When this reinforcement reached the Persians, they commenced preparations to renew the war as soon as the period of truce should expire.

When Málik heard of the arrival of the succours, he wrote to the Persians informing them that if they did not quit 'Omán, he would march against them and expel them by force, and seize all their property. But they, confident in their strength and in the comparative smallness of Málik's army, returned a defiant and insolent answer. Málik accordingly marched against them with his whole army and entered their territory. The Persians on their side prepared for battle. When the two armies met, Málik drew up his army as before, placing his son Honát in command of the right, and Ferâhid of the left, he stationing himself with the remainder of his sons in the centre. A fierce and prolonged battle was fought, in which the Persians employed their elephants. One huge animal was killed by Honát and his brother Ma'n-bin Málik. After a fierce struggle, the Persians were routed and fled, pursued by the el-Azd horsemen, who slew an immense number and made many prisoners. The remnant of the Persian army embarked in their ships and passed across the sea to Persia. So Málik conquered all 'Omán and took all the property of the Persians. He made many of the latter prisoners and kept them a long time in prison, after which he released them, and caused them to be conveyed to the ships, with their clothing and provisions, and sent back to Persia. Málik then ruled over 'Omán and its adjacent districts, and governed it wisely and well. The

journey of Málik and his sons to 'Omán and their battle with the Persians have been celebrated in many poems and traditions from which I have only given an abridged account. Then came to 'Omán many tribes of the el-Azd. The first of the el-Azd to join Málik was 'Imrán-bin 'Amrú-bin 'Amir-Má-el-Semá with his sons el-Hajr and el-Aswad. From the two latter many tribes in 'Omán derive. Afterwards Rabí'ah-bin el-Hárith-bin-'Abdullah-bin 'Amir-el-Ghitríf went forth with his brothers, also Muládis-bin 'Amrú-bin 'Adí-bin Hárithah came and entered Hudád, also 'Armán-bin 'Amrú-bin el-Azd, then came el-Yahmad-bin Hommá, also the sons of Ghanm-bin Ghalib-bin 'Othmán; and Ziyád or el-Nadab the junior. Then Ma'walah, the sons of Shams, and el-Nadab the senior went forth, also el-Dheyyak, and some of the Benú-Yashkar and of the Benú 'Amíd, and men of Khawáleh. All these tribes[19] went forth, each tribe with its banners. As they journeyed on, they consumed the substance of all by whom they passed, until they reached 'Omán. They extended themselves throughout 'Omán, and settled in its rich and spacious lands. The el-Azd named it 'Omán[20], because their dwellings had been in a watered valley in (Yemen) which was probably called 'Ammán, and to which they likened their new home. The Persians called 'Omán by the name of Mazún.[21] As an Arab poet has said—

"The Kesrá named 'Omán Mazún,
"And Mazún, O friend! is a goodly land,
"A land abounding in fields and groves,
"With pastures and unfailing springs."

The tribes of the el-Azd ceased not to migrate to 'Omán, until they became numerous therein, and their power and fame increased. At length, they overran the country and extended as far as el-Bahrein and Hajar [el-Hassa]. Then came to 'Omán Sámah-bin Loweij-bin-Ghálib[22], and settled at Towwam, which is el-Jow,[23] in the vicinity of the el-Azd. There were also in that place some of the Benú-Sa'd, and Benú 'Abd-el-Keis. Sámah married his daughter to Asd-bin 'Imrán-bin-'Amrú.[24] Some of the Benú-Tamím also settled in 'Omán, the Al-Khazá'ah-bin Házem settlers, too, arrived from the Benú-el-Nabat, whose abodes were at 'Obrí and el-Seleyf, and Ten'am, and el-Sirr.[25] Some of the Benú-el-Hárith-bin Ka'b came and settled at Dhank. About one hundred persons of the Khadhá'ah also settled at Dhank. Some of the family of Benú-Rú-áheh[26]-bin Ḳatí'ah-bin 'Abs came to 'Omán, amongst them Abú 'l-Hishm. The rule of Málik became strong in 'Omán and his wealth increased, and he was feared by all the tribes of the "Yemen" and "Nizar."[27] He was more daring and adventurous than any other Prince. He chiefly resided on the Ḳalhát coast and at Yanḳal. One of the Princes of the el-Azd, named Málik-bin Zoheir,[28] settled in the vicinity of Málik-bin

Fahm, and being a chief of great renown, well nigh rivalled the latter in power. So Málik-bin Fahm fearing that mutual jealousy and strife might arise between them, demanded his daughter in marriage, and Málik-bin Zoheir gave his daughter, but stipulated that her offspring should have precedence of all Málik-bin Fahm's sons by other wives. Málik-bin Fahm assented and married her on these conditions. By this marriage he had issue Salímah-bin Málik. Málik reigned over 'Omán for seventy years, during which time neither Arab nor Persian opposed his rule. His age was 120 years.

It is said that Málik-bin Fahm was slain accidentally by his son Salímah,[29] in the following manner: It is said that Málik used to require his sons to keep guard at night, each in turn with a body selected from Málik's most trusty nobles and followers. Now Salímah was more beloved of his father than any of his brothers, and had higher rank and dignity assigned him. His father had taught him archery until he excelled in the art. His brothers envied him on account of the preference shown him, and sought to lower him in his father's estimation, but found no opportunity to find fault with him. At length, one day some of them approached their father, and accused Salímah of leaving his post when on watch and retiring apart to sleep. Málik, however, reproved them, and told them he knew that envy prompted them to traduce his son Salímah, and that he judged the latter by his knowledge of him, so they were forced to withdraw without gaining their object. Afterwards, however, misgiving entered Málik's mind, and he resolved to put the charges against his son Salímah to the test. He accordingly went forth in disguise and secretly, on a night when it was Salímah's turn to keep guard. Now it was Salímah's custom to withdraw from his comrades and keep watch close to his father's house. On this night he had taken his usual station; and sleep had overtaken him just at the hour his father came out. His mare seeing the form of Málik in the distance neighed, on which Salímah started from his sleep in alarm, and saw his mare with her ears erected. Now it was the habit of the mare on seeing anything approaching to point her ears in the direction of the object, and the rider would aim his arrow accordingly. So Salímah discharged his arrow between the mare's ears towards Málik not knowing it was his father. Málik heard the sound of the arrow as it left the bow, and called out, "Do not shoot, my son, I am your father." It was too late, however, and the dart pierced the centre of his heart.

Salímah, after having slain his father, fled to the Persian coast in fear of his brothers, and abode at Jashk, where he married a native of the land named el-Asfáhíyeh. His offspring by this marriage were called Benú-el-Asfáhíyeh. Salímah afterwards removed to Kermán which he made himself master of after a series of adventures,[30] and reigned as king until his death.

By a marriage with a Persian lady he had ten sons, named 'Abd and Himáyeh and Sa'd and Rúáheh and Majásh and Keláb and Asd and Ṭáher and Aswad and 'Othmán. After his death, his sons were disunited, and the Persians expelled them, and some went to 'Omán. The majority of the children of Salímah, however, remained in Kermán, where they were numerous and powerful.

The Persians did not return to 'Omán after their expulsion by Málik until his reign terminated, and his children reigned in his place, and the kingdom of 'Omán came into the possession of el-Julandá-bin el-Mustatir[21] el-Ma'walí, and Persia fell into the hands of the Benú Sásán.[22] There was peace between them and el-Julandá in 'Omán, and the Persians kept a force of 4000 warriors in 'Omán and a deputy with the kings of the el-Azd. The Persians abode on the sea coast, and the el-Azd ruled in the interior plains and hills and districts of 'Omán, the direction of affairs being entirely with them.

The Persian monarchs used to send persons who had incurred their displeasure or whom they feared to their army in 'Omán. So it continued until God caused el-Islám to be manifested.[23]

Book II.[1]

Account of the people of 'Omán from the period when they embraced the religion of el-Islám until they became disunited.

There is a tradition that the first man of 'Omán to embrace el-Islám was one Mázin-bin-Ghadhúbah, who visited the Prophet and asked him to pray for him and the people of 'Omán.

Afterwards the Apostle of God wrote to the people of 'Omán, inviting them to adopt the religion of Islám. He wrote amongst others to 'Abd and Jeifar[2], the sons of el-Julandá (who had died a short time before), to the effect that if they would accept el-Islám, he would confirm them as Governors; otherwise they would be deposed. He sent this letter by 'Amr-bin el-'Ás, who alighted at a place near Ṣohár named Damsetjerd, which had been built by the Persians. Thence he sent a message to the sons of Julandá, who were the foremost and most influential chiefs of 'Omán. The first who met the messenger was 'Abd, who was the most discerning and sensible of the two brothers. He sent on 'Amr to his brother Jeifar with the sealed letter, and Jeifar broke the seal and read it, and then passed it to 'Abd who also read it. The latter then told 'Amr that this was no trifling matter he had come about, and that he would reflect on it, and afterwards give a reply. He then assembled a council of the el-Azd, and sent to Ka'b-bin Barshah el-'Udí. They all became converts to el-Islám, and sent to all their kinsmen who vowed obedience to the Prophet, and agreed to offer the proper religious alms. Jeifar sent messengers to Maheyreh, and Shihr in the south, and to Dabá,[3]

and the furthest limits of 'Omán to the north; and at his invitation all the people accepted el-Islám, save the Persians who dwelt in 'Omán. When the Persians rejected el-Islám, the el-Azd assembled round Jeifar, and all agreed to expel the Persian deputy Maskán and his followers from the country. As the Persians refused either to join el-Islám or to leave the country quietly, the el-Azd attacked them, killed their leader Maskán and many more, and drove the remainder into their town of Damsetjerd, when they besieged them rigorously, until they sued for terms. The el-Azd granted them quarter on condition that they left all their gold and silver and other property behind and quitted 'Omán, which they did. 'Amr continued to reside with and direct the el-Azd, until the death of the Prophet. After that, 'Abd-bin-el-Julandá and many of the el-Azd proceeded to visit Abú-Bekr the Just, who praised the conduct of the people of 'Omán in accepting the message of the Prophet willingly and spontaneously. It is said too that 'Abd served the Khalífeh in an expedition against the Ál-Jifneh. Abú-Bekr then wrote to the people of 'Omán thanking them and confirming Jeifar and 'Abd in the government. The virtues of these two cannot be fully described, but much might be written of them. They continued pre-eminent in 'Omán until they died. They were succeeded by 'Abbád-bin 'Abd-bin el-Julandá, in the time of 'Othmán-bin 'Affán and 'Alí.

Then came the wars and divisions, and Mu'áwíyah succeeded to power; but his authority was not established in 'Omán. At the period when 'Abdul-Málik-bin Marwán reigned and el-Hejjáj governed el-'Iráḳ, Suleimán and Sa'íd, the sons of 'Abbád-bin 'Abd-bin el-Julandá, ruled in 'Omán. El-Hejjáj sent several large armies against them, but they defeated them on each occasion and put them to flight until at length el-Ḳásim-bin Shi'wah came with a numerous army to 'Omán in ships, which anchored at one of the villages of 'Omán, named Haṭáṭ. Suleimán-bin 'Abbád led the el-Azd against the invaders, and a battle ensued in which the troops of el-Hejjáj were routed and el-Ḳásim and many of his followers slain; and Suleimán captured all their property.

When this alarming news reached el-Hejjáj, he sent for Mujá'ah-bin Shi'wah, brother of el-Ḳásim, and ordered him to rouse the people and make a general levy of the Nizár tribes. El-Hejjáj was personally incensed and eager for revenge. He wrote to 'Abd-el-Malik-bin Marwán, and restrained the chiefs of the el-Azd of el-Baṣrah from aiding Suleimán-bin 'Abbád. I have found it stated that the army which el-Hejjáj collected and sent against 'Omán, numbered 40,000 men. One half was despatched by land and the other half by sea. The former portion of the army having marched to 'Omán was opposed by Suleimán at the head of a force of the el-Azd, consisting of 3,000 horsemen and 3,500 camel riders. The encounter took place by the water, which is within five, or some say three, days' march of

the desert country.[6] It is the water near the village of Búsher (it is now called el-Balka'ein). The battle which was a severe one, resulted in the defeat of el-Hejjáj's men, who fled and were pursued by Suleimán for a long distance, the latter being wholly unaware of the approach of the second army by sea, which meanwhile arrived at Búnáneh, and the commander was informed that Suleimán had gone forth with the main body of his army to oppose the force which had come by the land route, and that those who remained with his brother Sa'íd were only a handful. Mujá'ah thereupon marched night and day until he reached Birkeh, where Sa'íd attacked his force, and a fierce battle occurred, which lasted until night separated the combatants. Sa'íd then regarding his army perceived that it was to that of the enemy like as a white spot on the body of a black bull, and many had been killed. So he retired during the night taking with him his own and his brother's children, and proceeded to the great mountain of the Benú-Ríyám, which is called el-Jebel el-Akhdhar, and also Rodhwán (spelt with *dhammah*). The enemy came up with him, and they remained besieged until Suleimán came up. Mujá'ah had anchored his fleet of 300 vessels in Masḳaṭ' harbour, and Suleimán proceeded there and burned more than fifty vessels, the rest escaping seaward. He then marched against Mujá'ah's army, and Mujá'ah conceiving himself unable to cope with Suleimán sought to escape to sea, but was encountered by Suleimán at the village of Semáíl. A severe conflict ensued, in which Mujá'ah was worsted and fled. He, however, succeeded in reaching his ships, and embarking sailed to Julfár.[8] Thence he wrote to el-Hejjáj who sent to his aid a re-inforcement of 5,000 mounted men, selected from the Bedouins of el-Shám, under 'Abd-ul-Rahmán-bin Suleimán, by land. Amongst them was a man of the tribe of el-Azd who was known by the title "el-Maláheb," and they were unaware that he was of that tribe. This person fled by night to Suleimán and Sa'íd, and informed them of the approach of the fresh force; whereupon they perceived they were unable to resist longer, and taking with them their families' property and those of their tribe who chose to follow them, they reached one of the districts of the Zenj[9], where they abode until their death. Mujá'ah and 'Abd-ul-Rahmán then entered 'Omán with their forces and exercised great severity, plundering the inhabitants. (We seek refuge with God from such things.) El-Hejjáj after that appointed el-Kheiyái-bin Sírah el-Mujásha'í governor of 'Omán. When 'Abdul-Malek died (A. D. 705), and el-Walíd-bin 'Abdul-Malek succeeded him, and el-Hejjáj died, Walíd appointed Yezíd-bin Abú-Muslim Governor of el-'Iráḳ, and the latter sent Seyf-bin el-Háni-el-Hamadání to govern 'Omán.

When Walíd-bin 'Abdul-Malek died and his brother Suleimán succeeded, the latter removed all the governors who had been appointed in 'Omán, and sent Ṣálih-bin 'Abdul-Rahmán el-Leithí. Afterwards he saw fit

to re-instate the governors, but made them subordinate to Ṣálih-bin 'Abdul-Rahmán.

After that Yazíd-bin el-Muhallib became Governor of 'Iráḳ and Khorásán, and he appointed his brother Zíyád over 'Omán, and he treated its inhabitants kindly, and continued to rule until Suleimán-bin 'Abdul-Malek died, and 'Omar-bin 'Abdul-'Azíz succeeded to the government (of 'Iráḳ). He placed 'Adi-bin Artáh el-Fezárí over el-'Iráḳ, who sent a governor to 'Omán who behaved so badly to the people that they wrote to 'Omán-bin 'Abdul-'Azíz. The latter placed over them 'Omar-bin 'Abdullah-bin Sabíbah el-Anṣárí, who treated them well and remained Governor over 'Omán, honored by the inhabitants, and receiving their contributions voluntarily until 'Omar-bin 'Abdul-'Azíz died. Then said 'Omar-bin 'Abdullah to Zíyád-bin el-Muhallib, "this country is the land of your tribe, do as you please with it," and straightway went forth from 'Omán. Zíyád-bin el-Muhallib then governed 'Omán, until Abul-'Abbás el-Saffáh appeared, and the empire of the Benú-Omeyyeh passed to him. He appointed Abú-Ja'far el-Manṣúr over el-'Iráḳ. The latter appointed Jenáh-bin 'Abbádah-bin Ḳeis-bin 'Omar el-Hináí[10] governor of 'Omán, who was the builder of the mosque known as el-Jenáh. Afterwards he was deposed, and his son Mohammed-bin Jenáh appointed in his stead. Thereupon Jenáh-bin 'Abbádah sided with the Ibádhíyeh[11] (Ibádhís), until at length the latter acquired the sovereignty in 'Omán.

THE IMA'M EL-JULANDA'-BIN MES'U'D.—Thereupon they elected el-Julandá bin Mes'úd their Imám,[12] and he was the cause of strength to the sect, and was a just and popular ruler.

A. D. 750. At the call of el-Saffáh, Shíbán went forth against el-Julandá, who, on his reaching 'Omán, sent against him Hilál-bin 'Atíyah el-Khorásání and Yahyá-bin Najíh with a force of Musalmans.[13] Now Yahyá was famed for his virtue; he uttered a prayer in which he mentioned both sides saying, "O God, if Thou knowest us to be in the faith Thou approvest, and to "follow the truth Thou wishest us to hold, grant, that I may be the first "of my comrades killed, and Shíbán the first on his side, after which cause "defeat to befall his followers. If on the contrary Thou knowest that "Shíbán and his followers hold the faith that pleaseth Thee, and the truth "Thou wishest to be established, then cause Shíbán to fall the first."

Then the forces encountered one another, and the first who was slain on the side of the Musalmans was Yahyá-bin Najíh whilst Shíbán was the first to fall on his side.

After the death of Shíbán, there came to 'Omán Kházim-bin Khozeymah saying they had come in search of that force, namely, Shíbán and his followers, but "it suffices that God has decreed they should be slain by "your hands. I wish, however, to go forth from you to the Khalífah and

"inform him you bear him obedience." El-Julandá consulted the Musalmans as to this proposal, but they were against it. It is also said Kházim demanded the sword and seal of Shíbán, and that el-Julandá refused; on which a battle ensued between him and Kházim, in which all el-Julandá's followers were slain, and none remained alive save himself and Hilál-bin 'Atíyah el-Khorásání. Then said Hilál to el-Julandá, "You are my Imám, precede me," and I engage not to survive you." El-Julandá then advanced and fought until he fell. Hilál then rushed on clad in armour, and the enemy amazed at his valour for some time failed to recognize him, but at length they discovered who he was, and raising the cry "Hilál-bin 'Atíyah!" fell on him and slew him.

The Imámate of el-Julandá had lasted for two years and a month. It is said that it was Kházim-bin Khozeymah who caused el-Julandá to be slain. It has also been told me that at his death Kházim was congratulated by some one on his conquest of 'Omán, and that he replied, "Ye "deceived me in my lifetime and do ye seek to do so at my death? Alas! "how will it be for me for slaying the 'Omán Sheykh!"

I have also found it stated that a native of 'Omán went on the pilgrimage; and with him was a man from el-Baṣrah who rested not by night nor slept. The 'Omání asked him about this, and he replied not knowing his companion was a native of 'Omán, that he had gone with Kházim-bin Khozeymah to 'Omán and had there fought against a people, the like of whom he had never seen, and since that day sleep did not visit him. The 'Omání said to himself, "You deserve it, if you are one of those who fought against 'Omán." After el-Julandá was killed, 'Omán fell into the hands of tyrants who misgoverned the country and oppressed the inhabitants. Amongst those oppressors were the two Julandáites Mohammed-bin Záidah and Ráshid-bin Sháthán-bin el-Nadhr. In the time of those two, Ghassán-el-Henáí, of the Benú-Mahárib, plundered Nezwá, and the Benú Náfa and Benú-Hamím fled therefrom after many had been slain. This occurred in the month of Sha'bán, A. H. 145. [A. D. 762]. Thereupon the Benúl-Hárith of Ibrá espoused their cause, and amongst them there was a slave belonging to Bakarah called Ziyád-bin Sa'id el-Bakarí, so they agreed upon proceeding to el-'Atík for the purpose of putting to death Ghassán el-Hináí, and they met him between his house and that of Jenáh-bin Sa'd, at a place called el-Khór, as he was returning from visiting a sick person of the Benú-Hináh. He passed by unaware of their presence, and they slew him. Manázil-bin Khanbash, who resided at Nabá and was agent for Mohammed-bin-Záidah, and Ráshid-bin Sháthán the Julandáites, were angered at this proceeding: and they attacked the people of Ibrá unawares. The latter, however, repulsed them, and forty of them were slain.

God then blessed the people of 'Omán by bestowing on them love of

the Truth, and a portion of the Musalmáns rose up in defence of God's Truth, and overthrew the power of those tyrants. Insomuch as the learned Sheykhs of the people of 'Omán assembled at Nezwá under the guidance of Músá-bin Abú-Jábir el-Azkání, and desired the Imámate to be conferred on Mohammed-ibn Abú-'Affán.

Now amongst those present were certain chiefs who did not favour the change; and the Sheykh Músá fearing the purpose of the Musalmáns might be frustrated and strife ensue, said, "We have elected the son of "Abú-'Affán to govern Nezwá and the towns of el-Jowf; and I fancy he "added until war ceases."

THE IMA'M MOHAMMED-BIN ABU-'AFFA'N.—And the Sheykh Abul-Manthar Bushír-bin el-Manthar remarked, "We expected to see what would please us, but we have seen what disgusts us." Músá rejoined, "We have done what you wish," but his object was to separate them, lest strife should arise. When the refractory chiefs returned to their respective districts, the Sheykh wrote letters deposing them, and sent governors to the various towns. I imagine they were deposed before the arrival of the new Governors. Mohammed-bin Abú-'Affán then remained in the camp, and behaved in such a manner as to displease the Musalmáns. It has reached me that what revolted them was his tyranny towards the Musalmáns, and his rejection of good advice. However that be, they devised a stratagem by means of which they effected his expulsion from the camp of Nezwá; after which they held a meeting and deposed Mohammed and elected another Imám. Mohammed had been Imám for two years and one month.

THE IMAM EL-WA'RITH-BIN KA'B.—Their choice fell on El-Wárith-bin Ka'b el-Kharúsí el-Shárí[15] el-Yahmadí el-Azdí, who became Imám in the year 177 A. H. [A. D. 783.] El-Wárith revived the ancient virtues of the Musalmáns, and treading the paths of rectitude, honored the Truth and her followers. He repressed infidelity, and thus God vouchsafed the fall of the oppressors.

In his time, Hárún el-Rashíd sent [against 'Omán] 'Ísá-bin Ja'far-bin Abul-Mansúr with a force of 1,000 cavalry and 5,000 infantry. Dáúd-bin Yazíd el-Mahallabí wrote to the Imám Wárith informing him of the arrival of 'Ísá with his army, whereupon the Imám sent Fáris-bin Mohammed against him. The opposing forces encountered one another at Hattá,[16] and 'Ísá-bin Ja'fer was defeated and forced to fly to his ships and put to sea. Abú-Hamíd-bin Feleh el-Haddání el-Salúní followed him up, accompanied by 'Amrú-bin 'Omar with three ships, and succeeded in capturing 'Ísá, who was taken to Ṣohár and there imprisoned. The Imám consulted the Sheykh 'Alí-bin 'Azrah concerning him, and he replied: "It rests with you whether to put him to death or to spare him." The Imám refrained from putting him to death and kept him imprisoned. I have heard that a party of Mu-

salmáns, amongst whom was Yahyá-bin 'Abdul-'Azíz, set out without the knowledge of the Imám, and coming to Ṣohár scaled the wall of the prison and slew 'I'sá; the Imám and the Wálí being neither of them cognizant of their proceedings. They then returned to their homes the same night.

On hearing of the death of 'Isá, Hárún resolved to send another army to 'Omán, and the people were in great fear of him. But he died ere his design was carried out, and God saved the people from the evil he had in store for them. [A. D. 809.]

It is said that Yahyá-bin 'Abdul-'Azíz was one of the most excellent of the Musalmáns; he seems indeed to have been unsurpassed by any of his contemporaries. His fame equalled that of 'Abdul Azíz-bin Suleimán. It is handed down to us that the Sheykh Bashír-bin el-Manthar was wont to say that the slayer of 'I'sá should not taste the fire. El-Wárith continued to govern as Imám with virtue and justice, until God took him. He was drowned in a flood of the Wádí el-Nejdí (or the Wádí Kalbúh), and seventy of his followers perished with him. This event happened as follows: He seems to have formed a prison near a scammony tree, and many Musalmáns were confined there. The Wádí became flooded, and the waters flowed down in a raging torrent, when the Imám was informed that the flood would reach the prisoners. He at once ordered them to be released, but no one would venture to their rescue from fear of the torrent. Then the Imám said, "Since they are in my charge, and I shall be responsible for them at the day of Resurrection, I shall go across to them." Accordingly he made towards the prisoners, followed by a number of his attendants, but the torrent overtook them and swept all, including the prisoners, away. When the water of the Wádí dried up, the Imám's body was buried between 'Akr and Sa'ál, where his grave is well known. His Imámate had lasted for twelve years and about six months.

THE IMA'M GHASSA'N-BIN 'ABDULLAH. His successor was Ghassán-bin 'Abdullah el-Fájhí el-Yehmadí el-Azdí, who walked in the paths of the true Musalmáns, and honoring the truth and those who followed it put a check on infidelity.

In his time the "Bowárih"[17] used to make descents on and ravage the coasts of 'Omán. Ghassán, however, fitted out small vessels with which he attacked the pirates in reprisal, until they were obliged to discontinue their attacks on 'Omán. He was the first ruler of 'Omán, who constructed vessels and employed them in naval warfare. During his reign el-Ṣaḳr-bin Mohammed-bin Záídah was slain. This person was amongst the number of those who declared the allegiance of the Musalmáns due to Ráshid-bin el-Nadhr el-Julandáí, and he aided them with money and arms. He was slain in the following manner: A person belonging to the Eastern districts,[18] raised a revolt against the Musalmáns, and was joined by Benú-Hináh

and others. It was told to the Musalmáns that the brother of el-Ṣaḳr was with the rebels; but el-Ṣaḳr denied it and gave out that his brother was lying sick in his house. When, however, God caused the rebels to be put to flight, it was ascertained that el-Ṣaḳr's brother was with them. El-Ṣaḳr was, therefore, suspected of treachery in concealing the conduct of his brother. So the Imám sent a party to Semáil where he was residing. The Wálí of Semáil was Abul-Wadhdháh el-Ṣaḳr-bin Mohammed, who accompanied the Imám's messengers to el-Ṣaḳr, fearing on his account lest they should fall on him. The Imám had in the meantime sent a second party after him, and with them Músá-bin 'Alí. They met at Nejd-el-Sahámát. Whilst they were proceeding on their way, certain persons of their troop attacked el-Ṣaḳr, and killed him, Abul-Wadhdháh and Músá-bin 'Alí being unable to prevent them. The latter, it is indeed said, was alarmed for his own safety; and had he opened his lips, he would have been slain with el-Ṣaḳr. It has been recorded that the Imám Ghassán showed displeasure against those who slew el-Ṣaḳr.

Those were the days when the kingdom was in its prime and in the fulness of its power, and learning at its height. Such was the manner of el-Ṣaḳr's death, but God knows the truth. Among the executive measures of the Imám Ghassán, the following may be mentioned.

There was at Semed of Nezwá a house belonging to the Benú-Julandá, the site of which was probably in the plantation named el-'Akúdíyeh [arches]. One of the arches of this building spanned the high road, and above the arch were windows. Now the archway was dark, and was frequented by licentious and disreputable persons. It was said that a woman who happened to pass through the archway was molested by one of these bad characters, and the affair came to the knowledge of the Imám Ghassán, who ordered the owners of the house either to pull down the arch or to light it up by night, so that the persons passing should see who was there. The owners of the house, thereupon, opened out a new road for the public through their plantation, and it was used by people passing until the house was pulled down, after which the proprietors built a house across the new road, and the former highway was re-opened to the public. The remains of the arch may be seen in the southern wall of the mosque at Semed of Nezwá.

Ghassán continued to govern justly and uprightly, until he fell ill on Wednesday, the 22nd of Thul-Ḳa'deh in the year of the Hijreh 207, and died of his illness [A. D. 822]. His Imámate had lasted fifteen years, seven months, and seven days.[19] He was succeeded by

The Ima'm 'Abdul-Ma'lik-bin Hami'd, who derived from the stock of Súdah-bin 'Alí-bin 'Amr-bin 'Ámir, surnamed Má-el-Semá, the Azdite. This Prince governed righteously and justly, and followed in the footsteps

of his virtuous predecessors. In those days 'Omán was blessed with prosperity. He was installed on Monday, the 22nd of the month of Showwál, A. H. 208. [A. D. 823]. He continued to govern justly until he became aged and infirm, when dissensions broke out amongst his soldiery. The Musalmáns thereupon consulted Músá-bin 'Alí concerning his deposition, and he advised them to assemble the soldiers and arrange for the government. Músá then assembled the troops, and proceeded to administer the Government, forbidding wrong-doing and strengthening the power of the Musalmáns. Meanwhile 'Abdul-Málik remained in his house, and they did not depose him, so he remained Imám until he died.[20] His reign lasted eighteen years.

The Ima'm El-Muhenna'-bin Jeifar. The Musalmáns then elected El-Muhenná-bin Jeifar el-Fajhí el-Yahmadí el-Azdí, on Friday in the month of Rejeb in the year 226 A. H. [A. D. 840].

This Prince trod in the footsteps of the Musalmáns, and adhered to their principles. He was possessed of much firmness and decision of character. At his assemblies no person could presume to speak nor to interfere in favour of one litigant against another; nor would any of his attendants venture to rise so long as he was seated; neither would any person in receipt of military allowances enter unless properly armed.

One of his agents for the collection of the ṣadaḳát (or poor rates) was a person named 'Abdullah-bin Suleimán of the Benú-Dhabbah of Manh, and he used to be sent to the grazing grounds to receive the contributions of cattle. It is related that he entered the land of Mahrah,[21] and went to a person of that district named Wasím-bin Ja'fer, from whom two payments were due. He, however, refused to pay more than one contribution, saying to the collector, "Take that, if you like, and if not, behold the graves of your comrades." 'Abdullah thereon held his peace and returned. He had with him a camel driver, and when he reached 'Azz, where his home was, he tarried there, and sent the camel driver on to the Imám. The man arrived whilst the Imám was holding his levée. As soon as that was over, he summoned the camel driver, and asked him about 'Abdullah and how he had fared on his journey. So he informed the Imám of the conduct of Wasím. The Imám strictly enjoined the camel man not to disclose what he had reported to any one, but to keep the matter secret. When 'Abdullah-bin Suleimán arrived, the Imám questioned him about Wasím, and 'Abdullah repeated what the camel driver had reported. Thereupon the Imám at once wrote to the Wálís of Adam, Senáo, and Ja'alán to the effect that if they could succeed in capturing Wasím of Mahrah, they were to keep him securely and send him word. The Wálí of Adam wrote to say he had taken Wasím, whereon the Imám sent to him Yahyá the Yahmaní, known as Abú-Maḳárish, with a body of horsemen. After them he despatched a

second detachment who came up with the first at el-Menáif; then a third, which joined at the village of 'Azz; and a fourth troop, which overtook the others at Manh. In this manner he continued despatching troop after troop, so that it might be said the prisoner was borne along on their spears, until they arrived at Nezwá with him. There the Imám ordered him to be imprisoned, and he remained a year in confinement, during which period no one dared to mention his name, nor to enquire concerning him. At length, a deputation of persons arrived from el-Mahrah, who through the el-Yahmad chiefs interceded for him with el-Muhennà, who consented to release him on one of the following conditions, from which he desired them to choose—

First,—that they should emigrate from 'Omán.

Second,—that they should agree to fight.

Third,—that they should bring the cattle every year to the camp of Nezwá, where impartial witnesses should attest that the due complement was produced and that none were withheld; also the witnesses should arbitrate concerning them at Adam. To these proposals the deputation replied in the following terms: "As for emigrating, it is impossible for us "to do so; and as for war, we shall not fight against the Imám; but we "are ready to bring the camels."

On this the Imám appointed the witnesses, and thenceforth they used to bring their camels, and march them round every year. I have heard say that the pillar which stands at Farḳ was erected in the time of el-Muhennà as a mark for the Benú-Mahrah, that they should assemble their camels on that spot; but God knows if this is true. And in those days el-Mogheyreh-bin Rúsin, the Julandáite, and his associates of the Benú-Julandá, and other turbulent people raised a rebellion, and went forth to Towwám where Abul-Wadhdhah was Wálí for the Imám el-Muhennà. The insurgents slew the said Wálí. Now at that time Abú-Marwán was Wálí of Ṣohár; and as soon as the intelligence reached the Musalmáns, he at once set out with his followers and allies, amongst whom was el-Maṭṭár el-Hindi and his followers of the el-Hind. When they reached Towwám, God caused the Benú-Julandá to be defeated and dispersed; some of them were slain, and the rest took to flight. On this el-Maṭṭár and a number of ignorant soldiers made for the houses of the Benú-Julandá and set fire to them. The cattle were tied up within the enclosure, and it is related that one of the soldiers repeatedly threw himself into the water, so as to wet his body and clothes and rushed into the midst of the fire, in order to cut the tethers and to allow the beasts to save themselves from burning. It is said from fifty to seventy buildings were burned down. I have heard it related that the women of the Benú-Julandá fled to the desert, where they remained for some time. They had with them a handmaid, whom, when they fell in want of food and drink, they sent by night to beg a supply from a neighbouring village. The girl

succeeded in obtaining some meal and a skin for holding milk and a fragment of a jar. She then filled her skin with water from the stream, and was returning to the women, when she was perceived by a soldier, who overtook her and took from her the meal which he poured on the ground, and after taking the water from her also, left her. I have found it stated that Abú-Marwán did not give the order for burning the village; it is more probable that he had forbidden such a proceeding, but that his words were disregarded. It is said that the Imám sent two messengers to the tribe whose village had been burnt, inviting them to return and promising to make them fitting compensation. The number of Abú-Marwán's forces is stated to have been 12,000. El-Muhenná remained Imám until his death, which occurred on the 16th of Rabí'-ul Ákhir, A. H. 237, [A. D. 851] he having reigned as Imám for ten years and some months and days, during which time he enjoyed the approval and support of the Musalmáns in general. Nevertheless, I find it mentioned in the biography of the Sheykh Abú-Ḳahṭán Khálid-bin Ḳahṭán that the Sheykh Mohammed-bin Mahbúb and Bashír had knowledge of the conduct of el-Muhenná incompatible with the retention of the Imámate, and consequently they secretly renounced him. God knows whether this is true.

The Ima'm El-Ṣalt-bin Ma'lik. On the day of el-Muhenná's death, the Musalmáns elected el-Ṣalt-bin Málik to be their ruler. At that time, the most excellent of the Musalmáns and their leader and guide in science and religious learning was Mohammed-bin Mahbúb. They swore allegiance to el-Ṣalt-bin Málik in the same manner that the just Imáms who preceded him had been acknowledged. He governed justly and uprightly for a long period, until all the Sheykhs of the Musalmáns who had elected him had passed away. Not one of them, as far as we know, seceded from him. He lived as Imám longer than any of his predecessors, until he grew old and feeble. His infirmity, however, was only in his limbs, for we are not aware that any one asserted that his mind, hearing, or sight had become impaired.

When the scroll of Destiny announced that his time was come, and God willed to try the people of 'Omán, as He had tried those who had gone before them, Músá-bin Músá rose up against him, and pursued him until he alighted at Fark.[22] Thereupon the people forsook el-Ṣalt, who being too weak to retain his position was deposed from the Imámate.

The Ima'm Ra'shid-bin el-Nadhr. Músá then conferred the Imámate on Ráshid-bin el-Nadhr on Thursday, three days before the end of the month of el-Hijj, 273 A. H. [A. D. 886].

The Imámate of el-Ṣalt had lasted 35 years, 7 months, and 8 days. His death occurred on Friday night in the middle of Thul-Hijjah, 275 A. H. In his days died the most accomplished and eminent of scholars Mohammed-bin Mahbúb.

Book III.

From the Outbreak of Civil Dissensions to the Imámate of Sa'íd-bin-'Abdullah. A. D. 886 to *A. D.* 934.

There then arose dissensions in 'Omán, and much misery ensued. The people became divided in religion and counsels, and civil war and discord fell grievously upon them. Then Músá renounced Ráshid and his wickedness and error, and rising against him deposed him.

THE IMA'M 'AZZA'N-BIN TEMI'M. 'Azzán-bin Temím el-Kharúsí succeeded to the Imámate on Tuesday, three nights before the end of the month of Ṣafar, A. H. 277. [A. D. 890.] Amongst those present at the ceremony of vowing obedience were 'Omar-bin Mohammed the Ḳádhí, and Mohammed-bin Músá-bin 'Alí and 'Azzán-bin el-Hizabr, and Azhar-bin Mohammed-bin Suleimán.

Músá and 'Azzán continued to be mutual friends for a long time, but at length they quarrelled, and 'Azzán deposed Músá from the office of Ḳádhí. 'Azzán then feared what might happen to him from Músá, and hastened to send a force against him, which he raised partly from the inmates of the prisons. They proceeded to Izkí,[1] where they entered the walled enclosure of the el-Nizár,[2] and set to work to slaughter, seize, carry off and plunder the inhabitants of Izkí. They then set fire to the place, and burned many of the people alive. Músá-bin Músá was killed by the pebbles of Roddah near the mosque of el-Hajar in the quarter of el-Jenúr. In short, they treated the people of Izkí with unheard-of barbarity. The warfare thenceforward became grievous, and hatred and anger were rife; each side endeavoured by every means in its power to inflict loss on its rival. 'Azzán received those who brought the intelligence of this affair with honour, and rewarded them with largesse, and withheld his favours from such as had held back from the expedition against Izkí. This affair took place on Sunday, one day before the end of Sha'bán, A. H. 278. [A. D. 891].

In consequence of this occurrence el-Fadhl-bin el-Hawárí el-Koreishí-el-Nizárí took the field, in order to avenge the massacre of the people of Izkí. He was joined by the el-Madhariyeh,[3] and the el-Haddán and some of the Benul-Hárith of el-Báṭineh; and he was met by 'Abdullah el-Haddání in the mountains of the el-Haddán.[4]

El Fadhl proceeded to Towám which is el-Jow.[5] Thence he returned to el-Haddán. He was there joined by el-Hawári-bin 'Abdullah el-Salúní, and they proceeded on the 16th of Showwál of the same year to Ṣohár, which they entered on the 23rd of the same month on a Friday. They attended Friday prayers,[6] and Zeyd-bin Suleimán officiated on the occasion, and preached to the people, after which he blessed el-Hawárí-bin 'Abdullah el-Salúní from the pulpit. They remained in Ṣohár the rest of Friday and

Saturday; and in the evening of Sunday, they went forth to encounter el-Ahíf-bin Hamhám el-Hináí, and those who accompanied him of the adherents of 'Azzán-bin Temím. For when the latter heard of their movement, he sent against them el-Ahíf-bin Hamhám, chief of the Benú-Hináh[7] with a force of the el-Yahmad, amongst them Fahm-bin Wárith. They proceeded until they reached Majiz in el-Bátineh, and summoned el-Ṣalt-bin Nadhr, who came forth against them with horse and foot. El-Fadhl-bin el-Hawárí and el-Hawárí-bin 'Abdullah also came up, and a battle ensued, in which a great number of the Madhríyeh were slain, and the remainder were forced to fly. This encounter took place on Monday, four days before the end of the month of Showwál of the above mentioned year.

There continued to be strife amongst the people of 'Omán, and their mutual animosities increased in bitterness. The Imámate became to them as a thing to sport with, and an object of rebellious contention and incentive to ambitious designs. They followed not God's book nor the footsteps of their virtuous ancestors. Matters reached such a pass that in one year they set up sixteen different Imáms, and in each case failed to hold to the allegiance they had vowed.

At length, when the fulness of the time was come, Mohammed-bin Abil-Ḳásim and Bashír-bin el-Manther of the Benú-Sámah-bin Lawá-bin-Ghálib went forth and proceeded to el-Bahreyn, where at that time Mohammed-bin Núr[8] was governor on the part of el-Mo'tadhid.[9] To him they complained, on arrival, of the sufferings they had endured from the Himyarite[10] faction, and invited him to accompany them to 'Omán, tempting him by holding out hopes of great advantages. The governor acquiesced, but advised them to visit the Khalífeh at Baghdád and state the circumstances to him, and that their object in coming was a desire for his success. So Mohammed-bin Abil-Ḳásim went on to Baghdád, whilst Bushír remained with Mohammed-bin Núr. When Mohammed was admitted to the Khalífeh's presence, he related to him the whole matter, and obtained a commission for Mohammed-bin Núr to proceed against 'Omán; after which he returned to el-Bahreyn. On his return there, Mohammed-bin Núr commenced raising a force from the various tribes, but principally from the Nizár. He was joined also by some of the tribe Ṭei from el-Shám, and marched against 'Omán at the head of 25,000 men, of whom 3,500 were horsemen equipped in armour and with their baggage.

The report of Mohammed-bin Núr's approach caused great commotion in 'Omán, where the people were split up into rival factions, their counsels devoid of concert and their hearts disunited. Some there were who emigrated from 'Omán with their families and property, and others found no resource but to resign themselves to disgrace. Suleimán-bin 'Abd-el-Málik-bin-Bilál-el-Salímí with his retainers proceeded to Hormuz, and the people of

Ṣohár emigrated with their property and families to Shíráz and el-Baṣreh. Mohammed-bin Núr meanwhile advanced with his forces and took Júlfár, whence he proceeded to Towwám, which he reached, after some encounters had taken place in the sandy wastes, on Wednesday, six days before the end of the month el-Moharram, A. H. 280 [A. D. 893]; and conquered el-Sirr and neighbouring districts. He then advanced on Nezwá, from which place 'Azzán-bin Temím, finding himself deserted by the people, fled to Semed-el-Shán. As soon as Mohammed-bin Núr appeared, Nezwá surrendered to him, and he continued his advance on Semed-el-Shán, and encountered 'Azzán-bin Temím, and on Wednesday, five days before the end of Ṣafar of the same year, a severe contest occurred, which resulted in the flight of the people of 'Omán and the death of 'Azzán-bin Temím.

Thus 'Omán passed out of the hands of its inhabitants. "It was not "that God had changed His grace which was in them, but they themselves "changed the disposition in their souls by sin."[11] For they fought amongst themselves for power and supremacy, each one aiming at having the authority in his own hands or in the hands of those he favoured. So God delivered them into the power of one more unjust than themselves. And since they had become corrupt in their religion, therefore God deprived them of their kingdom, and set an enemy over them to rule them. The rule of the Ibádhiyeh from their first accession to power until their overthrow by Mohammed-bin Núr had lasted one hundred and sixty-three years all but a month and twelve days. God knows the truth!

Mohammed-bin Núr sent the head of 'Azzán-bin Temím to the Khalífeh at Baghdád, and returned to Nezwá, where he took up his residence. Soon after el-Ahíf-bin Hamhám el-Hináí wrote to the Sheykhs of 'Omán and the tribes of all the districts, calling on and exhorting them to rise against Mohammed-bin Núr and drive him from 'Omán. They responded to the summons, and he marched against Mohammed-bin Núr with a numerous and well ordered force. When the latter heard of this, terror seized his heart and he took to flight, and was pursued by el-Ahíf and his army. The prudent course would have been to avoid a battle, and follow leisurely until Mohammed-bin Núr should pass the frontier of 'Omán and then to return. But God so willed it for His purposes that they marched quickly and overtook him at Damma, and a severe encounter took place, in which many were killed and wounded on both sides. The contest was going against Mohammed-bin Núr and his followers who were on the point of taking to flight, and had sought safety on the sea shore. At this juncture a body of troops appeared on the scene mounted by twos on camels. These were the advance guard and others of a force of Madharíyeh sent by Abú-'Obeydeh-bin Mohammed-el-Sámí to the assistance of Mohammed-bin Núr. As soon as they had drawn nigh to the rival armies,

they alighted from their camels and seizing their weapons charged with Mohammed-bin Núr against el-Ahíf and his followers, who were exhausted by fatigue. So it happened that when on the point of gaining the victory, the people of 'Omán were put to flight, and El-Ahíf-bin Hamham and many of his relatives and others were slain, few of the people of 'Omán escaping. Mohammed-bin Núr after this returned to Nezwá, and ruled supreme over all 'Omán dividing the people and committing evil throughout the land, which together with the sons of the land he ruined by his tyranny. As soon as Mohammed-bin Núr had re-established his authority in 'Omán, he degraded the most honorable of the inhabitants and reduced them to the most abject condition. He caused people to have their hands, feet, and ears cut off, their eyes put out, and generally treated the inhabitants with the greatest severity and contempt. He also filled up the water channels, burnt the books, and 'Oman passed out of the hands of its people. Afterwards desiring to return to el-Bahrein, he placed a person named Ahmed-bin Hilál as Governor of all 'Omán, and himself returned to el-Bahrein. The residence of this Ahmed was at Bahlá. He also placed a Governor at Nezwá, named Beyharah, surnamed Abú-Ahmed. This person was informed one day that Abul-Hawárí and his adherents repudiated Músá-bin Músá, on hearing which he sent a soldier to Abul-Hawárí, who came to him as he was seated after morning prayer in the Mihráb[12] Sa'íd, known by the name of Abul-Ḳásim (that is the mosque of el-Shejebí), reading the Ḳorán, and informed him that Abú-Ahmed required his presence. Abul-Hawárí replied that he had nothing to do with him, and resumed his reading. The soldier remained in astonishment, not knowing what course to take with him, until a messenger came from el-Beyharah with orders not to interfere with Abul-Hawárí, whereupon the soldier returned, and Abul-Hawárí remained unmolested by the blessed influence of the sacred book. It is said the soldier related afterwards that he had summoned him to arise, fearing lest his blood should be spilt in the Mihráb.

El-Beyharah continued to be governor of Nezwá until the people rose and slew him. His corpse was dragged away and buried in a well known spot a little below the gate called Mo'thir, by the way side of the road leading to Farḳ, where they cast manure and ashes and other refuse. God knows the truth!

The people then gave allegiance to

THE IMA'M MOHAMMED-BIN EL-HASAN EL-KHARÚSÍ as a Sháfi Imám.[13] He soon after abdicated, and they elected

THE IMA'M EL-ṢALT-BIN EL-ḲA'SIM. They deposed him and declared for

THE IMA'M 'AZZA'N-BIN HAZABR EL-MA'LIKI', who derived from Kelb-el-Yahmad. He was also deposed and their choice fell on

THE IMA'M 'ABDULLAH-BIN MOHAMMED EL-HADDA'NI', known as Abú-Sa'íd el-Karmatí. They deposed him also and re-elected

THE IMA'M EL-ṢALT-BIN EL-ḲA'SIM (RESTORED) who died in the Imámate. Next they elected

THE IMA'M EL-HASAN-BIN EL-SAHTEYNI', who died in less than a month.

THE IMA'M EL-HAWA'RI'-BIN MAṬRAF. Then they elected el-Hawárí-bin Maṭraf el-Haddáni as a Dáfi'í[14] Imám. He set to work to repress the licentious workers of folly with great severity. But on each occasion when the Sulṭán came to 'Omán to tax the inhabitants, he was wont to withdraw from the house of the Imámate to his private residence, and made no attempt to prevent his committing injustice and tyranny. As soon as the Sulṭán had quitted 'Omán, he would return to the house of the Imámate, and placing the crown of office on his head, would say to those around him: "There is no Government but belongs to God, and no obedience is due to those who rebel against God." Up to the time of his death, some of the Benú-Asámeh remained in attendance on him by order of the Sulṭán. The Sulṭán here mentioned was the Sulṭán of Baghdád.[15] God knows the truth! On his death, they elected his nephew 'Omar-bin Mohammed-bin Maṭraf.

THE IMA'M 'OMAR-BIN MOHAMMED. This Prince adhered to the same policy as his uncle had adopted, retiring when the Sulṭán came and returning to office on the latter's departure. At this period the Ḳarámiṭeh[16] invaded 'Omán, on which 'Omar resigned the Imámate. When the Ḳarámiṭeh returned to Bahreyn, he did not resume office.

These Ḳarámiṭeh had overrun many countries including Mekkah and el-Shám and subdued the various tribes. They were styled Benú-Abí-Sa'íd-el-Hasan-ibn Bahrám-bin Bohrist-el-Heyyáni.[17] Abú-Sa'íd abolished prayer, the fast, pilgrimage, and religious alms, and turned these observances into allegory. He so deluded his weak-minded followers, that they deified him in the place of the Almighty. He was at length overthrown by 'Abdullah-bin-'Alí, who fought against him with only 400 men, notwithstanding that their armies were numerous. He continued to strive with them for seven years, until they were deprived of power.

INTERREGNUM. After this there was an interregnum in 'Omán, during which period no Imám was elected.

THE IMA'M MOHAMMED-BIN YEZI'D. At length, they elected to the Imámate Mohammed-bin Yezíd el-Kundí [or Kindí], whose residence was at Semed-el-Kundí. He was elected as a Dáfi'í Imám, being incapacitated from election as Shárí on account of being in debt.[18] At this time the Sulṭán subdued 'Omán, and placed two forces in occupation of it, one at el-Sirr, and the other at el-'Atík. Thereupon Mohammed-bin Yezíd fled from 'Omán, and el-Hakam-bin el-Mullá el-Bohrí, a resident of Sa'ál, was elected Imám.

THE IMA'M EL-HAKAM-BIN EL-MULLA'. We know not of any previous

Imám, whether Musalmán or sinner, who equalled el-Hakam-bin el-Mullá in weakness and imbecility. He soon abdicated, and the Sulṭán placed an army at Nezwá. God knows the truth!

My own opinion is, that none of the Imáms mentioned after el-Ṣalt-bin Málik were universally recognised by the people of 'Omán, and that their rule did not extend over the entire country. They were recognised in certain districts and not in others, by some of the tribes only, and not by all. For after the dissensions which had arisen amongst them, the people of 'Omán had ceased to act in unison, and could not agree in the choice of an Imám. As they had cast away the blessings bestowed on them by God, so their hearts became disunited.

Book IV.

Containing an Account of the Imáms Sa'íd-bin 'Abdullah and Ráshid-bin-el-Walíd and their successors to the time of 'Omar-bin el-Ḳásim-el-Fudheylí. A.D. 934 to A.D. 1560.

The next of the Imáms appointed in 'Omán, after the people had come to be divided into factions, was Abul-Ḳásim Sa'íd-bin 'Abdullah-bin Mohammed-bin Mahbúb-bin el-Raheyl-bin Seyf-bin Hubeyrah, the horseman of the Prophet (on whom be peace!). I know not the date of his election, nor how long he was Imám[1]; neither have I learnt by whom he was slain, and for what cause. I have perused many books and questioned many well-informed persons in search of information on these subjects, but in vain. Please God, however, I shall still endeavour to discover.

I find that the first person to declare Sa'íd-bin 'Abdullah Imám was Abú-Mohammed el-Hawárí-bin 'Othmán, then Abú-Mohammed 'Abdullah-bin Mohammed-bin Abil-Múathir. Next I reckon Mohammed-bin Záideh el-Símúlí. I find also that this Imám was elected as a Dáfi'í, not as a Shárí.[2] Abú-Mohammed 'Abdullah-bin Mohammed was wont to extol his learning and to assert that his attainments surpassed those of any previous Imám. It has also come down to us that Abú-'Abdullah Mohammed-bin Rúh said that the Imám Sa'íd-bin 'Abdullah was more learned than any of those who elected him and associated with him. It is known to us from the unanimous testimony of the select circle of those who profess the true Faith,[3] that he was recognised as our Ruler and Imám. He passed away. May God have mercy on his soul! We know not that any found fault with his election to the Imámate, nor with his character; neither did any secede from him. We learn moreover of Abú-Mohammed 'Abdullah-bin Mohammed-bin Abil-Múathir that he said: "We know of no Imám of the "Musalmáns in 'Omán more excellent than Sa'íd-bin 'Abdullah, for he was "an upright and learned Imám, and he died the death of a martyr. All

"these things were combined in him. May God have mercy on him!" It may be, however, that el-Julandá-bin Mes'úd was his equal; but we are told that the Sheykh Abú-Ibráhím Mohammed-bin Sa'íd-bin Abú-Bekr said—"The Imám Sa'íd-bin 'Abdullah was superior to Julandá-bin Mes'úd; for "he was a just and righteous Imám, excelling the people of his time in "learning, and he died a martyr withal. May God pardon him and "compensate us and el-Islám for his loss with the highest requital, where-"with He compensates a people for their Imám!" This is what I have found recorded of his excellence. I find the date of the affair in which he was killed stated to have been the year 323 A. H. [A. D. 934]. I have read a book in which it is stated that he met his death in the following manner. A woman of the people of el-Ghashb of el-Rostáḳ was drying grain in the sun, when a sheep came and ate some of it, on seeing which the woman cast a stone and broke the sheep's leg. Another woman who owned the sheep, then came up and began beating the first woman, who cried to her people to aid her. One of her friends came up and also one of the other woman's friends, and each side being augmented by fresh arrivals a severe contest commenced. The Imám Sa'íd-bin 'Abdullah repaired to the scene with a single attendant for the purpose of separating the combatants, and was killed in the mêlée. God knows the truth of this.

The Imá'm Ra'shid-bin el-Wali'd. The next Imám was Ráshid-bin-el-Walíd, who was elected in the following manner: There assembled together the Sheykh Abú-Mohammed 'Abdullah-bin Mohammed-bin Abul-Múathir and Abú-Mes'úd el-Na'mán-bin 'Abdul-Hamíd, and Abú-Mohammed 'Abdullah-bin Mohammed-bin Shíkheh. And amongst those present at the ceremony were Abú-'Othmán Ramshaḳí-bin Ráshid and Abú-Mohammed 'Abdullah-bin Mohammed-bin Ṣálih and Abú-Manthir-bin Abú-Mohammed-bin Rúh. These persons who assembled on this occasion were respected and distinguished in the same degree as were those who elected the Imám Sa'íd-bin 'Abdullah in their time. No persons of sense denied their excellence nor ignored their uprightness, and of their contemporaries in the same Faith none were comparable to them. Thus "there are men for every time, as there is a word for every occasion." People of every age desire the general welfare of their religion. This is proverbial. The authority was with those who were present and not with the absent. Those who bore witness could not alter, and those who did not could not demur. He who gave admittance could not expel, nor could the affirmer deny his word.

Now it was known to this assembly that there was an adversity of sentiment amongst the members, and that mutual recrimination had place with regard to the affair of Músá-bin Músá, and Ráshid-bin el-Nadhr. Wherefore, when they had resolved to elect Ráshid-bin el-Walíd Imám, they deemed it expedient to summon a general council, to come to an

agreement as to the course to be adopted in that matter. Accordingly, a great number of the elect of the true Faith assembled in the house at Nezwá, in which Ráshid-bin el-Walíd used to reside. All of those we have named as having been present at the election of Ráshid-bin el-Walíd attended except Abú-Mes'úd-el-Na'mán, who was absent. The President of the Council was Abú-Mohammed 'Abdullah-bin Mohammed-bin Abul-Múathir. They unanimously resolved to adopt a policy of neutrality as between Músá-bin Músá and Ráshid-bin el-Nadhr, and to hold aloof from both as regarded the Government, granting at the same time that both were sincere believers in their religion. We know not of any of them that he acted wrongfully in either of these courses. The matter, then, was settled amongst them in this fashion; although the wording as to details may be more or less incomplete, still, the general result was as stated.[4] Having agreed on this course, they thereupon proceeded to swear allegiance to the Imám Ráshid-bin el-Walíd, binding him to administer the duties of his office in obedience to God and his Apostle; to govern uprightly and repress crime; to prosecute wars in defence of the Faith as a Dáfi'í Imám; and further to tread in the footsteps of the just Imáms, his predecessors, in imitation of their virtue and uprightness. On such conditions did Abú-Mohammed-bin Abil-Múathir swear fealty in the house at Nezwá, and after him, in the same manner, Abú-Mes'úd and the rest of the assembly. The Imám having accepted their vows, they went forth to the open plain at Nezwá, where a vast concourse of the people of 'Omán had collected. They had come not only from Nezwá, but from the various towns of the East and the West of 'Omán, and the assemblage was composed of persons of unimpeachable integrity, holding positions of rank and authority. They all assented to and obeyed the decision of the Council without the slightest sign of repugnance or disapproval. Then arose Abú-Mohammed 'Abdullah-bin Mohammed-bin Sbíkheh, and approaching Ráshid hailed him as Imám, and announced to the people that the Council had elected him, commanding them to vow their allegiance. This they did openly and willingly without a dissentient voice. Some of the persons referred to made their vows separately, and in other cases in parties; and for some time people kept arriving for the purpose of making the compact, until the whole kingdom had declared for the new Imám. Some appeared in person to swear allegiance, others saluted him as Imám,[5] whilst others again proved their minds by exhibiting a ready submission. The Imám had no occasion to use force, as no secret disaffection existed. He sent his governors and agents to all the districts and villages, and no one molested them. He performed the Friday service at Nezwá, and he and his agents collected the ṣadaḳát[6], or poor-rate. He also reviewed the troops, presenting standards and issuing all necessary orders. His receipts on account of the revenues of the kingdom were large,

and every district of 'Omán acknowledged his authority as Sulṭán,[7] and none rebelled against it in those days. All paid what was his due and openly acknowledged him as Imám, without the exercise on his part of any severity, open or secret, or any form of intimidation. On the other hand, there was no display of weak leniency, nor undue conciliation; nor was it necessary for him to work on the sordid feelings and hopes of profit of those who dissemble their fears, and betray others for gain or ambition. He was gentle to his subjects, and acted in harmony with their opinions, kindly indulgent to their defects and faults and pleased with their virtues. He was impartial in his judgment between all classes, whether noble, religious, poor, or rich. Those at a distance received equal consideration with those present. All were received with hospitality, and assiduous attention given to their affairs. He was accustomed also to consult with those below him in rank and to avail himself of their advice. Thus he continued to take on himself the burden of the cases of his subjects, sacrificing his own enjoyments and the society of those he loved for their good; and he ceased not in the same manner to bear patiently the misfortunes and deprivation of enjoyment and separation from friends, which his subjects caused him to suffer. He had to endure slander and injury,[8] calamity, and indignity, and bore all with patience, trusting to God for better times. Many of his subjects were watching for an opportunity to injure him, and in secret entertained most evil designs against him. "Iniquity appears in the countenances of the unbelievers, and their breasts hide not hatred and envy."[9] The Evil one had gained the mastery over their minds, and an evil fate and their own animosities overcame them. Some amongst them, whilst seeking his ruin, pretended friendship outwardly. If God gave him success, they feigned to rejoice and congratulate him. If, however, success attended the enemy, they would abandon him on pretence of inability to assist, asserting that if they only had the power, they would fight against the enemies of the Truth. Many proffered aid in words, whilst in secret abandoning his cause. Others again assisted him from interested motives, but only nominally and without sincerity. If good befel, they took advantage of it, but in time of adversity turned their backs. In short, it is impossible to enumerate the various evil motives by which they were actuated. Exception may be made in the case of a few persons who had not power to assist him, who saw they could not mend a hopeless cause by remaining faithful.

At length his affairs reached such a point that his people opposed and abandoned him, and the nobles conspired together to enter into intrigues against his power with the Sulṭán whom they prepared to support. The Imám made strong attempts to prevent this, and fierce enmity ensued between him and his subjects, who separated from him at the town of Bahlá,

and went forth obstinately in open rebellion, resolved on his downfal. The Sulṭán meanwhile had been advancing to el-Sirr, whilst the Imám, being deserted by the main body of his army who were now opposed to him, had only a small and weak body of followers. He had only left Nezwá indeed in hopes of inducing them to abandon their intention of going forth to join the approaching foe. Finding himself deserted and rebelled against, and unable with his small party to oppose the Sulṭán, he feared to be surprised in the place, and withdrew with his followers from Bahlá to Kadam.[10] He hoped that by this step he had ensured his safety and kept on his guard. He remained at Kadam until he ascertained that the enemy had entered el-Jowf, when he became alarmed, and removed with a small party of attendants to Wádí el-Nakhr.[11]

He then busied himself actively in endeavouring to raise a force to oppose the Sulṭán, and at length succeeded in assembling a sufficient number of allies and adherents to commence active operations against the enemy. By this time the Sulṭán was encamped at Nezwá. By the advice of those present of his kinsmen and well-wishers, who thought it best in the interests of Islám, the Imám remained behind the army which he sent against the tyrant Sulṭán at Nezwá. He took his position close to the pass to Manh, so he was not distant from them. As God had ordained, his army was defeated and put to flight and dispersed, and the Imám went forth vanquished and panic-stricken, seeking safety from his pursuers. The battle occurred in the forenoon, and by evening he found himself abandoned by all his followers, a prey to terror and deprived of all hope of the success of his people.

The tyrant Sulṭán then reduced all 'Omán with its various districts to submission. The people sought to ingratiate themselves with the Sulṭán, who, on his part, deluded and beguiled them, until all the districts had submitted to his rule. Meanwhile the Imám lay concealed amongst the heights of the mountains and in desert places, in fear alike from the Sulṭán and from his own subjects, dreading to meet death at every place, and in terror of being surprised in his sleep. Whilst he was thus a fugitive from home and family in terror of his life, the people of his kingdom were dwelling in their houses in peace and security, having artfully conciliated the Sulṭán and ingratiated themselves with him. There was nothing to induce the Imám to withhold his submission; indeed there was no other course open to him but submission, as no further effort was possible. He deliberated concerning his position and consulted with persons of sound judgment. He acted in accordance with the decisions and sanctions of people of piety, who pronounced an opinion, which, as far as we know is incontrovertible, that a Dáfi'í Imám is justified in practising "religious dissimulation"[12] when abandoned by his subjects. And we know not of a more signal

instance of desertion and rebellion on the part of the subjects against their Sovereign. But God is merciful and beneficent, and He provides for His servants an escape from every difficulty in matters of religion, and grants an excuse for all who are helpless. The Imám and his people alike suffered in accordance with the decrees of Fate. He accordingly returned to his home and made his submission, hoping to remain in unmolested retirement. A messenger came to him from the Sulṭán with an assurance of safety, but he seems to have given the promise verbally and not on oath. The Imám abstained from frequenting the Sulṭán's levées until the latter came to him and forcibly insisted on his doing so. By this act of submission his Imámate, in our opinion, terminated forthwith; and this furnished an evident excuse for the establishment of the rule of his rival. We have not heard that, during his administration of the Imámate and the vicissitudes which befel, any reproach or blame attached to Ráshid-bin el-Walíd. He lived for a short time after these events, admired by all, and was much regretted when he died. In his time, Ráshid-bin el-Walíd was humble in spirit, and none of the pious found fault with him on account of any of his actions. May God requite el-Islám and its people for the loss of one who acted justly and uprightly! and may He recompense us all and all who knew his excellence, as a people is recompensed for their Imám, a brother for a brother!

We have recounted only a portion of the virtues of Ráshid-bin el-Walíd, which we trust will not be questioned, but much more might have been added on this subject. For he was endowed with every virtue, so much so in fact, that his good qualities are proverbial, and such as to baffle all attempts to recount them. His fall dated from the battle of Nezwá, after which, deserted by his own subjects, he was obliged to dissimulate and seek the favour of the Sulṭán; for there was no refuge for him from the confines of Júlfár to the borders of Ra'wán; neither in the hills of 'Atáleh, nor in the land of el-Haddán, nor el-Rostáḳ. Everywhere was bitterness and vileness, and every foe treated him with obloquy.[18]

The Ima'm el-Khali'l-bin Sha'tha'n. Amongst the Imáms elected in 'Omán was el-Khalíl-bin Sháthán, who probably reigned in the beginning of the 5th century of the Hijrah.

The Ima'm Ra'shid-bin Sa'i'd. Next was Ráshid-bin Sa'íd, who died in the month of Moharram, A. H. 445. [A. D. 1053.]

Verse.

"We mourn not for the loss of goats or sheep or camels; but when one dies whose loss brings death to many, then is real woe."

The Ima'm Mohammed-bin Habi's. On the day of his death, Mohammed-bin Habís was invested as Imám by Nijád-bin Músá, the Ḳádhí of the

late Imám, and the preceptor Abú-Bekr Ahmed-bin Mohammed pronounced the khoṭbeh. This was in 510 A. H. [A. D. 1116.]

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THE IMA'M MOHAMMED-BIN KHANBASH. Afterwards, Mohammed-bin Khanbash became Imám. He died in 557 A. H. [A. D. 1162], and was buried by the small black hill, called Jebel Thú-Juyúd, near Feleij el-Kantak. His death occasioned greater suffering to the people of 'Omán than that of any previous Imám.

THE IMA'M HAFS-BIN RA'SHID. His son Hafṣ-bin Ráshid was then elected.

THE IMA'M RA'SHID-BIN 'ALI'. Then came Ráshid-bin 'Alí, who died on Sunday, in the middle of Thul-Ḳa'deh, A. H. 476. In one work, however, the date of his death is placed at A. H. 513. God knows which of the dates is most correct.[14]

THE IMA'M MU'SA-BIN ABÚ-JA'BIR. Then was elected Músá-bin Jábir-el-Mu'álí-bin Músá-bin Nejád, who died in the year 549 A. H. [A. D. 1153.] I have translated the following passage from the MS. work of the learned 'Othmán-bin Músá-bin Mohammed-bin 'Othmán, who lived in the quarter named el-Jarmah of 'Akr at Nezwá.

THE IMA'M HABI'S-BIN MOHAMMED. THE IMA'M MA'LIK-BIN EL-HAWA'RI'.

On the 17th of Jumádí-el-Awwal,[15] died the Imám Habís-bin Mohammed-bin Hishám, whose death was a severe affliction to the people. Málik-bin el-Hawárí became Imám in the year 809 [A. D. 1406], and died in 832 A. H. [A. D. 1429]. I have not discovered accounts of any Imáms during the interval that here elapses of a little more than two hundred years.[16] God knows whether those were years of an interregnum during which no Imám was elected, or whether the names of the Imáms have been lost to us.[17] I have, however, found an account of an expedition of the people of Shíráz against 'Omán, under Fakhr el-dín Ahmed-bin el-Dáyah and Shihább el-dín with 4,500 horsemen. The people of 'Omán endured extreme suffering from these invaders. They ejected the principal persons of el-'Akr at Nezwá from their houses, and remained in this manner for four months in 'Omán. They also besieged Bahlá, but were unable to take it. Ibn-Dáyah having died, God caused their fall. The people also suffered from a severe famine. That was in the reign of the Sulṭán 'Omár-bin Nebhán in the year 674 A. H.[18] [A. D. 1279]. I have also lighted on an account of an expedition of one of the Amírs of Hormúz, named Mahmúd-bin Ahmed el-Káshí, who landed at the town of Ḳalhát.[19] At that time Abul-Ma'álí-Kahlán-bin Nebhán and his brother 'Omar-bin Nebhán ruled over 'Omán. On arrival at Ḳalhát, Mahmúd summoned Abul Ma'álí, who told him that he held possession of

only one district of 'Omán, whereupon Mahmúd replied, "Take as many of my soldiers as you please, and proceed against those of 'Omán who oppose you." Abul-Ma'álí then told him that the people of 'Omán had not the means of paying tribute. All this he said with a view to protect the people of 'Omán. Mahmúd dissimulated his hostile feelings, and sought to gain his end by stratagem; so he invited all the Bedouin chiefs of 'Omán and gave them presents, on which they promised him victory over the people of 'Omán and engaged to join him. He then proceeded by sea to Dhafár.[20] Arrived there, he slaughtered many of the inhabitants, plundered much property, and returned towards 'Omán. He embarked his baggage in vessels, and performed the first part of the journey by sea. When subsequently they landed and proceeded by land route, their provisions failed, and they were beset by hunger. So great was the scarcity, that a *mann* of meat sold for a dínár.[21] They also suffered greatly from thirst, water being scarce on that route. It is said that 5,000 of his men died, and some say more. This was in the year 660 A. H. [A. D. 1262]. I have also found another narrative of an expedition of the Owlád el-Reís[22] against 'Omán. They set out in the end of Showwál, A. H. 675 [A. D. 1276]. At that time the ruler[23] of 'Omán was the Seyyid[24] Kahlán-bin 'Omar-bin Nebhán, who advanced by the desert to oppose them, accompanied by all the people of el-'Akr. The Owlád el-Reís surprised el-'Akr, entered it, and burned its market places. They plundered the place of all it contained, carried off the women, and burned the magazines and the principal mosque. The books were likewise burned. All this occurred in the space of half a day. Kahlán thereupon returned with his force, and united with his detached parties. The Owlád el-Reís and their allies of the el-Haddán attacked Kahlán's army, and in the battle which ensued 300 men were slain.

It is probable that during the interval between Mohammed-bin Khanbash and Málik-bin el-Hawárí, the government was in the hands of the el-Nebáheneh, but God knows! It seems probable, also, that they held power for more than 500 years, with this qualification that, after the term of years referred to, Imáms were elected, the Nebáheneh being rulers in some districts, and the Imáms being recognized in the rest.[25] God knows!

The Ima'm Abul-Hasan-bin Khamí's. Seven years after the decease of Málik-bin el-Hawárí, Abul-Hasan-bin Khamís-bin 'Ámir[26] was elected Imám. This was on Thursday in the month of Ramadhán, in the year 839, A. H. [A. D. 1435]. He died on Saturday, the 21st of Thul-Ḳa'deh, A. H. 846. [A. D. 1442.]

The Ima'm 'Omar-bin Khatta'b. In the year 885 A. H. [A. D. 1481], they elected the Imám 'Omar-bin Khaṭṭáb-bin Mohammed-bin Ahmed-bin Shídán-bin Ṣalt.[27] He it was who seized the property of the Benú-Nebhán, and divided it amongst those about him of his own sect.[28] He took the

administration of this property into his own hands. This was by the unanimous wish of the Musalmáns, who assembled and held inquiry regarding the bloodshed and the property unlawfully seized and appropriated by the Ál-Nebhán. It was found that it was more than their possessions.[29] The Ḳádhí under the Imám 'Omar-bin Khaṭṭáb was Abú-'Abdullah Mohammed-bin Suleimán-bin Ahmed-bin Mufarrij, and he appointed Mohammed-bin 'Omar-bin Mufarrij agent for those of the Musalmáns of 'Omán who had suffered injustice at the hands of the Ál-Nebhán. Ahmed-bin 'Omar acted in like capacity for the Ál-Nebhán Princes. Ahmed-bin Ṣálih-bin Mohammed-bin 'Omar adjudged the whole of the property of the Ál-Nebhán, their lands, plantations, tenements, arms, utensils, water-runs, dykes, in fact all they possessed of dwellings, wells, furniture, and goods, to those whom they had oppressed. Mohammed-bin 'Omar accepted this decree for those of the people of 'Omán who had suffered injury, whether living or dead, old or young, male or female. By this decisive decree the property in question could be claimed by those injured. Many, however, were unknown, and their claims forgotten, and it was impossible in such cases to distribute the shares. All such unclaimed shares of the property were ordered to be given to the poor, it also being decreed that, whilst there was a just Imám reigning, he was the most fitting person to receive such property awarded to the poor, and to expend it for the glory and maintenance of the government of the Musalmáns. All persons who established their claims, were to receive their shares of the property of the Benú-Nebhán. On the property being awarded, an estimate was to be made of what was due in arrears for the yearly produce of such property, if the claimant had the necessary information, but if he was unable to estimate this, that portion of the claim was to come under the head of unknown claims, and to be assigned to the poor, and taken charge of by the Imám as above. This decree was confirmed and ordered to be carried into execution. "If any should alter it after hearing it, verily the guilt is on those who shall alter it, for God hears and knows."[30]

This order was passed on Wednesday evening, seven days before the end of Jumádí el-Ákhir, in the year 887 A. H. [A. D. 1482]. This occurred in the second reign of the Imám 'Omar. For one year after his first election Suleimán-bin Suleimán rose against him, and his army was defeated at Himat in Wádí Semáil. Afterwards he was re-elected He was succeeded by

The Ima'm Mohammed-bin Suleima'n bin Ahmed-bin Mufarrij, the Ḳádhí, in the year of the Hijreh 894 [A. D. 1489.] He was deposed and

The Ima'm 'Omar-el-Sheri'f was elected in his place and reigned for one year, after which he retired to Bahlá. The people of Nezwá then re-installed Mohammed-bin Suleimán.

The Ima'm Ahmed-bin-'Omar. Next was Ahmed-bin 'Omar-bin Mohammed el-Zenjí.

THE IMA'M ABUL-HASAN-BIN 'ABD-EL-SELA'M. Then Abul Hasan-bin 'Abd-el-Selám reigned as Imám for less than a year, and was overthrown by Suleimán-bin-Suleimán, who made war against him.

THE IMA'M MOHA'MMED-BIN SULEIMA'N was then set up once more, and remained in power for a few days.

THE IMA'M MOHAMMED-BIN ISMA"I'L. The next Imám was Mohammed-bin Ismá'íl el-Ismá'ílí, who resided in the quarter of Wádí el-Gharbíyeh on the road which leads to the Mazár gate.[21] The cause of his being chosen was that Suleimán-bin Suleimán assaulted a woman, who was bathing at el-'Antaḳ. The woman rushed out of the stream naked and fled from him. Suleimán chased her as far as the Wádí, when they were perceived by Mohammed-bin Ismá'íl, who seized Suleimán, threw him down, and held him there until the woman had escaped into el-'Akr, when he let him go his ways. The Musalmáns were so pleased at this proof of his strength to do right and oppose wickedness, that they elected him Imám in the year 906 A. H. [A. D. 1500.]

He died on Thursday, nine days before the end of Showwál, A. H. 942[22] [A. D. 1535.] His son

THE IMA'M BARAKA'T-BIN MOHAMMED-BIN ISMA"I'L was installed on the same day on which his father died.

On Saturday, ten days before the end of the month of Moharram, A. H. 965 [A. D. 1557], Barakát evacuated the fort of Bahlá, which was forcibly seized by Mohammed-bin Jafír-bin 'Alí-bin Hilál. Previous to this, however, in the year 964 A. H. [A. D. 1556], the powerful Sultán, Sulṭán-bin Mohsin-bin Suleimán-bin Nebhán had taken possession of Nezwá. Mohammed-bin Jafír continued to hold possession of the Fortress of Bahlá until the Al-'Omeyr bought it from him for three hundred laks. The Al-'Omeyr entered the Fort of Bahlá on Tuesday, nine days before the end of Jumádí el-Akhir, A. H. 967. [A. D. 1559.]

It seems probable that 'Omar-bin Ḳásim el-Fadheylí was Imám in the time of Barakát-bin Mohammed-bin Ismá'íl, but this is not certain.

THE IMA'M 'ABDULLAH-BIN MOHAMMED. On Friday, fifteen days remaining of the month of Rejeb, A. H. 967 [A. D. 1559], the Imám 'Abdullah-bin Mohammed el-Karan was invested at Manh, and on Monday, two days before the end of the same month, he entered the Fort of Bahlá.

On Wednesday, three days before the end of the month of Ramadhán, A. H. 969 [A. D. 1561], Barakát-bin Mohammed-bin Ismá'íl re-entered the Fort of Bahlá, which was vacated by 'Abdullah-bin Mohammed el-Karan. The learned theologian Ahmed-bin Maddád denounced both Mohammed-bin Ismá'íl and his son Barakát. He says in his work—"The religion which "we profess, and in which we worship God, enjoins renunciation of Moham-"med-bin Ismá'íl on account of his having forcibly levied zekát[23] from his

"subjects, whilst neglecting to protect them and prevent oppression. For "it has been rightly handed down as an article of the religion of the "Musalmáns that the "Jezíah"[84] or the "Ṣadaḳát" cannot be lawfully "levied except by rulers who prevent the unjust and oppressive levy of "exactions. According to the religion of the Musulmáns, their means of "subsistence cannot be taxed in a land where they are not afforded "protection and security."[85]

Likewise Mohammed-bin Mahbúb said that our Imám cannot lawfully levy taxes, nor receive the free offerings from a people whom he fails to protect from oppression. If he does so, he acts unjustly towards them, and there is no difference between him and the oppressors who plunder the people. The Imám must not take aught from such people, and must refrain from appointing governors over them without protecting them. The religion of the Musalmáns also forbids the levy of both *kharáj*[86] and *zekát* from one and the same class of the subjects. Serving Almighty God, we repudiate Mohammed-bin Ismá'íl on account of his oppression of his subjects in forcing sales of the zekát due on the produce of the date plantations, in accordance with the arbitrary estimates of his agents, and in forcibly insisting on it being levied at that valuation to the injury of the people. For the forced purchase of the zekát on grain and dates, either in advance or after receipt, is not allowed by the religion of el-Islám. Such is prohibited by the book and the law and by accord of the peoples. Forced sales also are forbidden except in cases of storing up against times of famine or refusal to satisfy just claims. There is no difference of opinion in this matter. So we renounce and hold ourselves free from the guilt of Mohammed-bin Ismá'íl and his son Barakát.

Book V.

Account of the later Princes of the el-Nebáheneh, and others, up to the accession of the Imám Náṣir-bin Murshid. A.D. 1560 to A.D. 1624.

It is related that when Sulṭán-bin Mohsin died, (which event occurred on Monday, eleven days before the end of Rabí' ul-Ákhir, A. H. 973, [A. D. 1565]) he left three sons, Ṭahyás-bin Sulṭán, Sulṭán-bin Sulṭán, and Modhaffar-bin Sulṭán. The last named was foremost of them in the Government until he died, on a Saturday in the month of el-Moharram, in the year 996 A. H. [A. D. 1588.]. He left a young son, named Suleimán, who, on account of his youth, was incapable of assuming the reins of Government. His uncle Felláh-bin Mohsin, who was Málik of Maḳínát,[1] on hearing of the death of Modhaffar, came to Bahlá, and assumed the Government in his brother's place. He continued to govern for seven years when he died. Suleimán-bin Modhaffar succeeded him when only twelve years of age, and ruled supreme in 'Omán and all its districts, levying

taxes from the people by fair or forcible means, from those at a distance, as well as those close by. The people of Nezwá collected to oppose him, and amongst the rebellious was a Jabarí, named Mohammed-bin Jafír, who had a large force under his command. Suleimán-bin Modhaffar and 'Arrár-bin Felláh accompanied by Náṣir-bin Ḳaṭan and his followers marched against the rebels: and in the battle which ensued, Mohammed-bin Jafír was killed and his army defeated. Náṣir-bin Ḳaṭan, who was watching the result, interfered to prevent further slaughter.

Mohammed-bin Jafír left a young son, named Mohammed, whose mother was a daughter of 'Omeyr-bin 'Ámir. Suleimán-bin Modhaffar espoused this lady, when her husband was killed, and spent the cold weather with her in the plains of el-Shemál, leaving his cousin 'Arrár-bin Felláh to act for him at Bahlá.

Mohenná-bin Mohammed el-Hadeyfí was at that time Málik of Ṣohár. Having received intelligence that the Persians were preparing to attack him, he sent to ask Suleimán-bin Modhaffar to assist him against them. The latter consented and proceeded with his forces to Ṣohár, where the army was completely organized. The Persians arrived by sea, and a severe fight occurred, which resulted in the defeat of the Persians and the slaughter of a great number of their army. After this, Suleimán returned to his residence at Bahlá. He had with him his cousins 'Arrár, Nebhán, and Makhzúm, sons of Felláh-bin Mohsin,[9] of whom there were ten in all. 'Arrár was the first of them, and his brother Nebhán had no will but his. El-'Arrár was Prince (Melik) of el-Dháhireh, and Suleimán bestowed on Makhzúm the district of Yanḳal.

Of the cousins of Suleimán there was also Himyer-bin Háfidh, who had four sons, Háfidh-bin Himyer, Sulṭán-bin Himyer, Kahlán-bin Himyer, and Húd-bin Himyer. The first of these died a year after the return to Bahlá. There were in Suleimán's service also his relations Muhenná-bin-Mohammed-bin Háfidh and 'Alí-bin Thahal-bin Mohammed-bin Háfidh.

Suleimán had Wazírs at el-Ḳareiyeh and amongst the el-Nizár of Azkí and at Semed el-Shán. The latter place belonged to the el-Jahádhim tribe, whom Suleimán treated with severity. They were forced to fly from his violence and power, and remained dispersed in the districts for the space of thirty years, fearing to return to the town.

The Benú-Hináh clan was held in the highest estimation by Sulaimán-bin Modhaffar, and they were a most numerous, powerful, and warlike tribe. The leaders of this tribe were Khalf-bin Abú-Sa'íd, and Seif-bin Mohammad-bin Abú-Sa'íd, men renowned amongst the people of their time. There were two tribes of the people of Seiḳam, the Benú-Ma'an and Benú-Neyyer, both cognate to, and allies of, the Benú-Hináh. A feud broke out between these two tribes, arising from a quarrel

between two women, and because of the mutilation of a camel, and they became divided; the Benú Ma'an with the Benú-Shakeyl joining Suleimán-bin-Modhaffar, and the Benú-Nayyer joining the Benú-Hináh. On this, Khalf-bin Abú-Sa'íd went to his house at Dárseyt[3] with his cousins. Suleimán-bin Modhaffar was then in the desert, and when he heard what had occurred, he sent to his Wazír Mohammed-bin Khanjar, desiring him to tell Khalf to desist from interference with the tribe (Benú-Ma'an).

The Wazír sent to Khalf accordingly, but finding he did not stop his proceedings, he reported to his master that Khalf would not attend to his orders. Suleimán then sent instructions to his Wazír to operate against the property of the Benú-Hináh at Kadam, and the Wazír ordered this to be destroyed. As this property belonged to the Sheykh Khalf, this occasioned a rupture between him and Suleimán, and in reprisal Sheykh Khalf ordered his cousins to make a raid on Bahlá. This they did, and they killed many of the inhabitants of that place. The Wazír Mohammed-bin Khanjar then wrote to inform Suleimán of what had occurred at Bahlá. On hearing this intelligence, Suleimán returned from el-Shemál to Bahlá, and endeavoured to effect a reconciliation with the Benú-Hináh.[4] In this he was unsuccessful, and both sides prepared for a struggle; and the Sulṭán Suleimán collected all his available forces to attack the Benú-Hináh. As soon as the Sheykh Khalf heard of this, he sent to ask aid of the Amír[5] 'Omeyr-bin Himyer, the Prince of Semáil, against Suleimán-bin Modhaffar. 'Omeyr consented and came from Semáil with his followers. Suleimán, being apprised of this movement, marched with his forces to Ghobrah, near Bahlá, and there encountered 'Omeyr-bin Himyer. A battle was fought which lasted for an hour, and which resulted in Suleimán returning to Bahlá, and the Amír 'Omeyr to Semáil, the latter leaving some of his men in Dárseyt. The Amír was a person of noble and prudent disposition. On his arrival at Semáil, he sent to the Benú-Jahádhim who were dispersed in various villages. They came at his summons, and a friendly alliance was established. He next sent to the Sulṭán of el-Rostáḳ, Málik-bin Abul-'Arab, to invite him to Semáil, who accepted his invitation, and with him went also Abul-Hasan 'Alí-bin Ḳaṭan. From Semáil they proceeded with the Benú-Jahádhim to Semed el-Shán, where they entrenched themselves. The Amír left with them some of his own clansmen and whatever provisions, water, and munitions of war they required, and returned himself to Semáil. As to Suleimán-bin Modhaffar and the Benú-Hináh, there was incessant warfare between them.

The Amír 'Omeyr-bin Himyer and the Sulṭán Málik-bin Abul-'Arab betook themselves to Nezwá to watch the cause of events. Now Málik-bin Abul-'Arab had a Wazír in 'Einí of el-Rostáḳ, and certain inmates of his house ejected the Wazír. Next, one of the inhabitants of 'Einí repaired

to Suleimán-bin Mudhaffar, and sought his aid against the hostile faction. Suleimán sent some of his men under 'Arrár-bin Felláh to their assistance. When the Sulṭán Málik-bin Abul-'Arab heard what had occurred in his home, he prepared to set out to return thither. The Amír, however, said to him: "Stay with us and fear not, for this affair promises happy results." He asked how that could be with the enemy in his house. The Amír replied, "That is my affair: and, please God, I shall be victorious. God (whose name be exalted!) has said, 'Difficulty and ease go hand in hand.'" The poet says—

"When events overwhelm, and the spirit is ready to sink beneath them; when misfortunes descend and patience is failing,—still in the end comes relief."

The Benú-Hináh then invited the Amír 'Omeyr-bin Himyer to advance with his men, promising to give them admission to Bahlá. He accordingly proceeded a part of the way with his forces, but, deeming them too weak in numbers, he returned to Nezwá. Meanwhile the Benú-Hináh were in expectation of his arrival on the night fixed for his entry. On his failing to join them, the Sheykh Seyf-bin Mohammed went from Dárseyt to Nezwá to see him, and a stormy discussion ensued between them, the Sheykh censuring the conduct of the Amír. The latter ended by desiring the Sheykh to take as many of his men as he pleased. The Sheykh accordingly took a great number of men and proceeded to Dárseyt, whilst the Amír awaited the result at Nezwá. Suleimán-bin Mudhaffar was informed that the enemy's force had marched from Nezwá to Dárseyt, some saying their object was el-Ḳareyeh, others Seyfam, and others again Bahlá. So Suleimán divided his army, placing a division at Ḳareyeh and another at Seyfam. He also built a fort to cover Felej el-Juzyein, fearing an attack in that quarter, and placed a detachment in it. Of the rest of his forces some were stationed at Bahlá, and a detachment at el-Khadhrá. He also posted men in the el-Ghâf quarter.

Himyer-bin Háfidh with some of his retainers held the principal mosque of the town, the rest of his men being placed in el-'Akr. His cousin 'Arrár-bin Felláh with his followers was at 'Einí of el-Rostáḳ.

Seyf-bin Mohammed proceeded with his force from Dárseyt with the intention of occupying Bahlá. They first entered from the western side, scaling the outer wall. This design they carried out so skilfully, that their entry was not discovered by any one. Seyf then divided his force into three parties, one for the right, one for the left, and the third in the centre; the latter being opposite the chief mosque of the town. In this manner he occupied positions well chosen for further operations. Subsequently, in the fighting which took place, many of Suleimán's chiefs and warriors were slain, and he retained only the Fort and el-

Khadhrá. Seyf-bin Mohammed then proclaimed an amnesty, and was joined by many of the towns-people.

When the news reached the Amír 'Omeyr at Nezwá that his men had entered Bahlá, he set out accompanied by the Amír Sulṭán-bin Mohammed, and the Sulṭán Málik-bin Abul-'Arab, and el-Manṣúr 'Alí-bin Ḳaṭan and the people of Nezwá. Khalf-bin Abú-Sa'íd el-Hináí also moved with his followers from Dárseyt to assist their comrades. They entered Bahlá by night, and the Amír 'Omeyr alighted in the el-Ghâf quarter. El-Khadhrá was held for the Sulṭán Suleimán by 'Alí-bin Thahal with a large force; and the Amír sent word to them inviting them to evacuate the place with their flags.[e] 'Alí-bin Thahal went amongst his men exhorting them to hold out, but they refused to obey him, and prepared to leave the place.

Meanwhile 'Arrár-bin Felláh, who was at 'Einí of el-Rostáḳ, hearing of the enemy's entry of Bahlá, immediately marched with his followers to el-Ḳareyeh.

The siege of the Fort of Bahlá continued, and it was surrounded by the enemy. The besiegers constructed a wooden tower on a tamarind tree in the market-place during the night. In this one of the el-Jahádhim, named Jum'ah-bin Mohammed, esconced himself and shot one of the garrison. Another such tower was built by the Amír on the mosque, and its occupant also shot one of Suleimán's soldiers in the upper part of the Fort.

The besiegers at length demolished the wall of the Fort during the night. Suleimán's men, however, opposed them and prevented their entry. Then the garrison, fearing to be slain, asked permission of Suleimán to evacuate the place. Still they held out for thirteen days more, when, Suleimán having given permission, they asked the Amír 'Omeyr to allow them to march out. He allowed them to pass out with their personal effects, and sent his Wazír to see them safe. Suleimán-bin Mudhaffar with his cousins and followers went forth from Bahlá, and proceeded to el-Ḳareyeh, whence he and 'Arrár went to el-Dháhireh.

The Amír 'Omeyr then ordered the Fort of Bahlá to be razed to the ground, which was done, and not a wall nor a building was left standing. Thus is manifested the power of God, who bestows kingdoms on whomsoever He willeth.

'Omeyr then left Khalf-bin Abú-Sa'íd in charge of Bahlá and returned to Semáil. Khalf had been only four months in Bahlá, when he was attacked by Suleimán-bin Mudhaffar and his cousin 'Arrár-bin Felláh, who entered el-Khadhrá whilst he was in el-'Akr. This occurred on the 4th of Rabí 'ul-Awwal, A. H. 1019 [A. D. 1610]; and at that time Seyf-bin Mohammed with some of his followers was in el-Sirr. Suleimán-bin Mudhaffar sent to Khalf-bin Abú-Sa'íd, and offered him the option of

marching out with his personal effects, and Khalf accepted this offer after obtaining an amnesty for the people of the district. Some of the latter remained in their abodes, others went forth from fear of the Sulṭán.

When Seyf-bin Mohammed heard of these occurrences, he returned from el-Sirr, and the Amír 'Omeyr also, aware of his movements, marched from Semáíl to Nezwá and thence on to el-Ḳareyeh, which he took and made over to Seyf-bin Mohammed to hold for him. The Amír then returned to Nezwá, where he remained some days watching events.

Soon after, Suleimán-bin Mudhaffar died, leaving a son of tender years, and 'Arrár-bin Felláh assumed the Government of Bahlá. Seyf-bin Mohammed then proceeded to Nezwá, and, taking a large force from the Amír 'Omeyr, went to el-Ḳareyeh, where they halted for seven days. Thence they marched on Bahlá, and entered the quarter called Abú-Mán, and besieged 'Arrár-bin Felláh for some days. Then he sent them on their ways with their arms, &c., and the Fort of el-Ḳareyeh remained in his hands, and he spent some years in repairing it.

This entry (?) took place on 6th of Ṣafar, A. H. 1024.' [A. D. 1615.]

After him Mudhaffar-bin Suleimán held power, but he died after two months.

Makhzúm-bin Felláh then governed for two months, after which Nebhán and Seyf-bin Mohammed rose against him to eject him from the Fort. They allowed him at his request to march out without arms or effects. He proceeded to Yanḳal in el-Dháhireh.

Nebhán-bin Felláh was the next to rule. He placed his cousin 'Alí-bin Thahal as his representative in Bahlá and after him Seyf-bin Mohammed. Nebhán-bin Felláh then went to his home at Maḳaníyát after removing his cousin Sulṭán-bin Himyer from Bahlá, fearing lest he should usurp the government. The latter went to Ṣohár, and Seyf-bin Mohammed held his place for a year. God knows!

After that the Amír 'Omeyr-bin Himyer went up with his followers to Bahlá, but, being opposed by Seyf-bin Mohammed, he returned with his troops to Nezwá to watch events. After a while, 'Omeyr again marched to Bahlá and entered el-'Akr. Seyf-bin Mohammed, who happened to be at Dárseyt at the time, on hearing of 'Omeyr's movement, marched with his followers and entered the Fort unopposed. Thence he wrote to Nebhán-bin Felláh, informing him that the enemy had entered the town, and requesting him to come with the men he had with him. He was some days collecting his force, and meanwhile the Amír 'Omeyr had occupied all the strong positions in the district. Seyf-bin Mohammed continued to hold the Fort with his men, expecting Nebhán to succour him, but the latter did not appear. 'Omeyr-bin Himyer sent to offer him safe-conduct out, but Seyf declined, hoping for the arrival of Nebhán. When, however, he despaired of

this, he accepted the terms, and was allowed to march out with his men with all their effects. Seyf then went to el-Ḳareyeh, and 'Omeyr remained for some time at Bahlá, after which he sent to Seyf-bin Mohammed, and a reconciliation took place between them. Seyf thereafter continued to administer the Government, and ruled the people justly. He exercised authority over his cousins, who remained faithful to him. After the affair of Seyf-bin Mohammed had been settled in this manner, the following events occurred. Sulṭán-bin Himyer, Mohenná-bin Mohammed-bin Háfidh, and 'Alí bin Thahal were then residing at Ṣohár with Mohammed-bin Mohenná el-Hadeyfí, who wished to take them to their cousin Nebhán-bin Felláh at Maḳaníyát, in order to mediate a reconciliation between them. Makhzúm was then in the Fort of Yanḳal. They were unable to come to terms. Afterwards Sulṭán-bin Himyer the Nebháni and 'Alí-bin Thahal moved with their combined forces from el-Dháhireh against Bahlá, and entered the quarter of the Benú-Ṣalt of Bahlá, on the 9th of Ṣafar, 1024 A. H. [A. D. 1615]. The Amír 'Omeyr-bin Himyer, who was at Semáil, hearing of their movement, marched at once to Bahlá with a force, and after him came up Seyf-bin Mohammed, and an engagement was fought. The Nebháni army built a wall of defence all round the quarter they occupied. 'Omeyr sent to his adherents in all the villages. He was joined by the Sheykh Májid-bin Rabí'ah-bin Ahmed-bin Suleimán el-Kundí and 'Omar-bin Suleimán el-'Afif and the Sheykh Sa'íd-bin Hamd-bin Abú-Sa'íd el-Ná'abí, with the principal inhabitants of Nezwá and Manh. Sulṭán-bin Himyer and his force remained for a long time so closely besieged, that not a man could come out, nor could any one enter to them. At length, Sulṭán offered to evacuate the place, if suffered to pass in safety, and the Amír consenting, they were allowed to march off to el-Dháhireh with their arms and effects.

Sulṭán-bin Himyer, Ḳahlán-bin Himyer, 'Alí-bin Thahal, and Muhenná-bin Mohammed-bin Háfidh continued to reside at Maḳaníyát until Nebhán dismissed them from dread of their ejecting him from the place. They then proceeded to Ṣohár, and dwelt there for a year with the Hadeyfí Mohammed-bin Muhenná. But God knows!

Sultán-bin Himyer next suggested to Mohammed-bin Muhenná that they should make an attack on the district of 'Omeyr-bin Himyer about el-Síb of the Báṭineh. 'Omeyr was away, and there were present in his districts Sinán-bin Sulṭán, the Amír 'Alí-bin Himyer and Sa'íd-bin Himyer. Mohammed-bin Muhenná and Sulṭán-bin Himyer mounted with their followers and set out from Ṣohár, and the news of this was carried to Sinán and 'Alí and Sa'íd. In as short a time as would serve a man to put off his shoes, or wash his feet, the hostile forces met and swords were bared on land and sea, on plain and hill, and a terrible battle was fought, in which

'Alí-bin Himyer was slain. The contest then terminated, and Mohammed-bin Muhenná returned to Ṣohár.

When the Amír 'Omeyr-bin Himyer, who was at Bahlá, heard what had befallen his brothers and his cousin, he solemnly vowed not to turn back from Ṣohár until he had reaped the enemies with the sword, burnt them with fire, and scattered them in all directions. He commenced collecting forces by land and by sea, and there assembled round him a force of whom God alone could tell the number. He then proceeded to Masḳaṭ, to obtain re-inforcements by sea. He sent also to the Malik of Hormúz for assistance, and he sent him a number of ships laden with stores and men and munitions of war. A ship also had arrived on the coast from India, carrying a large number of troops and some munitions of war,[a] and had been driven back by the wind to Masḳaṭ. The Amír 'Omeyr-bin Himyer took it, and proceeded with the Christians and others who had joined him from Masḳaṭ, and halted for seven nights at Báṭineh el-Síb. Mohammed-bin Jafír, hearing of this, marched with his tribe to the aid of Mohammed-bin Muhenná, and entered Ṣohár, to the joy of the latter, who gave him admission to the Fort and encouraged his men. A collision took place between Mohammed-bin Jafír's men and a party in one of the bastions of the Fort, and they fought for an hour. Mohammed-bin Jafír and his people then quitted Ṣohár.

When the Amír 'Omeyr heard of this occurrence, he moved his forces on Ṣohár by land and sea, and entered that town on the 19th of Rabí' ul-Ákhir, A. H. 1025. [A. D. 1616.]

A battle which ensued between the rival forces, lasted from morning to night, but without decisive result. A day or two later, the Christians disembarked from the ships with their implements of war. In advancing they pushed before them gabions of cotton, to shelter them from the musketry fire. They also employed cannon, which moved by land on wooden carriages, and were fitted with wooden screens. On one side of the Fort, Mohammed-bin Muhenná had a tower in which were a large number of soldiers. The besiegers dragged their cotton screens to a position opposite this tower, and battered it with cannon until a breach was effected, when the garrison evacuated it and the Christians entered. When Mohammed-bin Muhenná heard of this, he urged on his men, and a fight took place by night at the tower, in which 'Alí-bin Thahal-bin Mohammed-bin Háfidh and Mohammed-bin Muhenná el-Hadeyfí were killed, on the 21st of Rabí' ul-A'khir, A. H. 1025. [A. D. 1616.]

After this event, Sulṭán-bin Himyer-bin Mohammed-bin Háfidh el-Nebhání with his brother Kahlán-bin Himyer and his cousin Muhenná-bin Mohammed-bin Háfidh and their forces occupied the fort.

As soon as the Amír 'Omeyr became aware of the death of the chief of

the enemy's army, he led his men to battle. The encounter took place in the quarter of el-Nakhl, 'Omeyr and his followers issuing without opposition from the vicinity of the chief mosque. In the contest Sulṭán-bin Himyer was killed, and the enemy's forces were routed and dispersed; some were slain, some burnt, some captured, some wounded, and the rest fled they knew not whither. In this manner the whole population of the place was disposed of, and the town itself was completely burnt. The Christians remained in occupation of the Fort of Ṣohár, and the Amír 'Omeyr returned to Semáil intoxicated with joy.

At this period, Makhzúm-bin Felláh was in possession of the fort of Yanḳal. He seized two of them (?), and ordered one of his slaves to execute one of these two. The slave bared his sword to strike, on which the prisoner prayed him to protect him. He did not heed him and struck one blow. A second time he cried in vain for mercy, and when he was about to strike a third blow, the man appealed for protection to God. Makhzúm, on this, rushed on him to gag his mouth, at the same instant the slave's sword descending struck the hand of Makhzúm, who died from the effects of the wound in seven days. As for the prisoner, the slave dragged him away thinking him dead, but he was found by one of the towns-people who succoured him, and he recovered of his wounds and lived for some time after that. This happened three months after the capture of Ṣohár.

When Nebhán heard of his brother's death, he rode from Maḳaníyát to Yanḳal, and placing there a Wazír returned to the former place. Since he had left Bahlá for el-Dháhireh, a period of thirty months had elapsed. After that Nebhán-bin Felláh went a second time to Yanḳal, leaving some of his men in the fort of Maḳaníyát. But the people of the latter place were weary of his tyranny and oppression, and planned to expel him from the place. So they sent an emissary to the Amír 'Omeyr-bin Himyer and to Seyf-bin Mohammed, asking their aid. Both of them marched with their followers to Maḳaníyát, and entered the fort without opposition or bloodshed. After remaining there some days, they rode with a portion of their forces to Yanḳal. When Nebhán-bin Felláh became aware of this, he feared for his safety, and mounting on horseback fled with only four attendants and without baggage to the town of his maternal uncles of the el-Riyáyeseh. This was twelve days before the end of Ṣafar, 1026 A. H. [A. D. 1617.]

The Amír 'Omeyr and Seyf-bin Mohammed remained for some time at Yanḳal. The Amír then made over the lands to the rightful possessors to freely enjoy the produce thereof, and returned to Maḳaníyát. He enquired of the inhabitants what Nebhán was in the habit of taking from them. They told him that he took one half the produce of the date trees and one quarter of the yield of the sown ground. The Amír 'Omeyr reduced

the impost to one-tenth of the yield of the crops. The property of the Sulṭán was assigned to whomsoever should be in charge of the fort. After placing 'Omar-bin Mohammed-bin Abú-Sa'íd in command of the fort, the Amír and Seyf-bin Mohammed returned to Bahlá.

Meanwhile Nebhán-bin Felláh, having procured a force from his uncles of the Al-Reís, returned to el-Dháhireh and entered Fidá. There he remained for some days, when an inhabitant of Yanḳal, who was one of his well-wishers, came to him and offered to procure him admission to the town and support against the garrison, and to open the fort to him. So he went and re-entered Yanḳal with his followers in the middle of Rabí' ul-Ákhir, A. H. 1026 [A. D. 1617.] He occupied all the commanding positions of the place except the fort itself, which was held by some of the Benú-'Alí tribe. Nebhán proceeded to besiege these, and some fighting took place. One of the besieged went forth from the Fort, and proceeded to ask assistance of the Amírs who dwelt in el-Shemál, Ḳaṭan-bin Ḳaṭan and Náṣir-bin Náṣir. They with their followers proceeded to Yanḳal, and attacked and dispersed the forces of Nebhán-bin Felláh.

On hearing of the entry of Yanḳal by Nebhán-bin Felláh, the Sheykh Seyf-bin Mohammed el-Hináí had marched with his troops to oppose him. When he had traversed a portion of the way, he heard what had happened to Nebhán at the hands of the Amírs, and thereupon returned to Bahlá with his army.

The Amír 'Omeyr-bin Himyer at that time collected men to aid the Sulṭán Málik-bin Abul-'Arab el-Ya'rabí against the Benú-Lamak, and having lent the aid of all his forces, the result was disastrous to the Benú-Lamak.

Seyf-bin Mohammed el-Hináí remained in Bahlá, and the Al-'Omeyr in Semáil, and Málik-bin Abul-'Arab in Rosṭáḳ and the el-Jibúr in el-Dháhireh until the appearance of the wise Imám of the Musalmáns, Náṣir-bin Murshid, who subdued all 'Omán and reduced to obedience all its districts, purging the land of tyranny and oppression, of infidelity and rebellion, and restoring to it justice and security, and governing the people with equity and kindness until God took him to Paradise.

I shall, please God, relate his advent in the following book.

Book VI.

Appearance of the Imám Náṣir-bin Murshid and an Account of the Imáms who succeeded him up to the occurrence of dissensions amongst the el-Ya'á-rabeh. A. D. 1624 to 1718.

When it was the will of God to be gracious to the people of 'Omán, and to save them from further violence and oppression, after the sufferings

they had experienced from civil wars, it came to pass that an uneventful period ensued in their annals, during which the fierce passions and animosities which had animated them were obliterated from their minds. Generation succeeded generation, but the country long continued impoverished after those truculent chiefs and contending factions had disappeared from the scene. There remained only the record of the virtuous amongst them and what they commemorated in their books and traditions. Learning declined and the learned were few. Friendly intercourse was resumed and the fire of hatred died out of their hearts; the flames of war were extinguished, and party differences were reconciled. A time came when learning had so declined and its possessors were so scarce, that it was said that one of the Princes of the Ya'árabeh of Wabl of el-Rostáḳ wanted a Ḳádhí and was unable to find one amongst the followers of the true sect,[1] and therefore selected a Ḳádhí from the heretics; of what sect I know not. This person endeavoured to overturn our sect and establish his own instead. The people of 'Omán, on hearing of this, sent to that Prince, who thereupon dismissed the Ḳádhí and appointed for them one of their own persuasion. From him the people of el-Rostáḳ received instruction and became steadfast in the faith.

The majority of the Meliks of 'Omán were wicked and turbulent oppressors, and they were abetted in their tyranny by the chiefs of the tribes. Throughout the land, whether in desert or valley, everywhere oppression was rampant. The people of 'Omán suffered from those evil doers the severest misery, from which neither the young nor the aged escaped. All alike were subject to be plundered, or seized and imprisoned, to be scourged or even slaughtered. And God caused animosity and hatred to grow in their hearts.

Now the people of 'Omán are endowed with certain qualities, which it is my hope they may never lose. They are a people of soaring ambition, and of haughty spirit; they brook not the control of any Sulṭán, and are quick to resent affront; they yield only to irresistible force, and without ever abandoning their purpose. A man of comparatively poor spirit, judged by their standard, is on a par as regards magnanimity with an Amír of any other people. Each individual aims at having the power in his own hands or in the hands of those he loves. He desires every one to be submissive to him, and his neighbour has the same ambition.[2] Unfortunately none are worthy of such things, but those whom God elects, pious, chaste, and blessed persons, who are not swayed by their desires, nor prone to be led away by blind passions. So it came to pass that fierce animosities broke out amongst them, and they fought amongst themselves, plundering, and carrying off captives. In short, each party neglected no means of injuring their opponents. There were none to be found, whether dwellers in houses or dwellers in tents, whether

"Bedú" or "Hadhr"[3], whether on the mountain heights or in the sandy levels, but had quaffed the draught of terror, and suffered from the general destruction which encompassed religion, property, and life, except those for whom God tempered their troubles and whom He saved from the strife by His bounteous protection. In this manner, they ceased not to struggle in the abysses of desolation, walking in evil ways, until God vouchsafed unto them the appearance of his wise servant, the Imám of the Musalmáns, Náṣir-bin Murshid-bin Málik[4], which occurred as follows.

It happened that when Málik-bin Abul-'Arab, who has been mentioned in the previous book, was their Sulṭán, dissensions occurred amongst the people of el-Rostáḳ. Those of the Musalmáns who were steadfast in the faith, consulted with the learned regarding the election of an Imám, to govern them in accordance with right and justice, and they deliberated as to who was worthy of their choice. At that period, the most respected person amongst them was Khamís-bin Sa'íd el-Shaḳaṣí. Their unanimous decision was to elect the illustrious Seyyid [Náṣir]. So they went to him and asked this of him, exhorting him to rule uprightly.

The Ima'm Na'ṣir-bin Murshid. He consented, and was elected Imám in the year 1034 A. H. [A. D. 1625], and fixed his residence at Ḳaṣrá, in the district of el-Rostáḳ, and acted justly, and exerted himself to uproot ignorance. The tribe el-Yahmad actively supported him, and agreed to seize by night the fort in which his cousins had resided since the death of his grandfather Málik. After gaining possession of the fort, the Imám proceeded to the town of el-Nakhl, in which his uncle Sulṭán-bin Abul-'Arab was residing, and took that place after a siege of some days. A portion of the inhabitants, however, refused to acknowledge the Imám and besieged him in the fort, until he was relieved by a body of the el-Yaḥmad, and his enemies were dispersed, after which he returned to el-Rostáḳ. There he received visits from Ahmed-bin Suleimán el-Rúeyhí with a party of the el-Rúáheh and envoys from Máni'-bin Sinán el-'Omeyrí, who abode some time with him and invited him to Semáil and Wádí Beni-Rúáheh. To this he assented, and marched accompanied by some of the el-Yahmed until he reached Semáil, where he left some of his men with Máni'-bin Sinán, and proceeded on to the Wádí Beni-Rúáheh. As agreed upon with Máni', he went on thence to Nezwá, attended by the Ḳádhí Khamís-bin Sa'íd. On reaching Izkí, many of the inhabitants gave him personal and pecuniary assistance, and he took possession of the place, and proceeded towards Nezwá, where he was welcomed by the people and entered the town in safety. He took up his residence in el-'Akr, and continued to administer justly for some months. The Benú bú-Sa'íd,[5] the chief family of el-'Akr, then formed a conspiracy in view of ejecting the Imám from the place. The execution of this plot was fixed for a Friday, when the Imám went forth to prayers, but

he received timely warning from a person, to whom he had shown kindness, of what they meditated, and when he had ascertained the truth of the intelligence, he ordered the family to be banished from the district, but forbade any one to slay or attack them. So they were forced to go forth, and dispersed throughout the districts. A party of them resorted to Máni'-bin Sinán, who had made a compact with the Imám and taken an oath to follow the truth. By receiving these persons he broke his word. Another body of them took refuge with the el-Hináí at Bahlá, and assisted that tribe in their war against the Imám, which then broke out.

The Imám ordered a new Fort to be constructed in 'Akr of Nezwá in lieu of the old one, which had been built by el-Ṣalt-bin Málik, and the work was completed.

The people of Manh also invited him to extend his just rule to them, and he proceeded to that town, which was opened to him, and administered the affairs with the active and substantial support of the inhabitants. So also the people of Semed el-Shán came to him. The governor [Málik] of Semed at that time was 'Alí-bin Ḳaṭan el-Hilálí. The Imám despatched an army under the command of the learned Sheykh Mes'úd-bin Ramadhán, who took possession of the town. At the invitation of the people of Ibrá, the Málik of which was Mohammed-bin Jafír, the Imám sent a force there also, which took the place.

In this way the whole of el-Sharḳíyeh submitted to the Imám, except Ṣúr and Ḳeríyát, which were held by the Christians.

The Imám next assembled an army and marched against the el-Hináí of Bahlá. When he had proceeded as far as the plain of el-Markh, he discovered treason amongst certain persons of his army, and deemed it most prudent to return to Nezwá, where he commenced raising a fresh force. A large number of men being assembled, he marched with them towards el-Dháhireh, and succeeded in gaining possession of Wádí Faddá, where he ordered a Fort to be built. The inhabitants of the uplands of Dhank, whose leader was the learned Sheykh Khamís-bin Rueyshid, joined the Imám, and also the men of el-Ghíálín, and his authority was established in spite of his enemies.

After this the Imám made a tour of the districts he had conquered, until he reached Semed el-Shán, whence he returned to el-Rosṭáḳ with the Benú Ríyám.[6] There he remained until the army of Mohammed-bin Jafír advanced to the town of Nakhl, which they entered and took possession of, all but the Fort. The Imám marched against them at the head of a numerous army, and was aided by the el-Ma'áwal clan. The enemy had only occupied the town two or three nights, when they were forced to fly, and the Imám returned to el-Rosṭáḳ.

Soon after, the Sheykh Khamís-bin Rueyshid came to the Imám seek-

ing his assistance against el-Dháhireh. The Imám thereupon prepared an army with which he marched to the assistance of the Sheykh, and halted at el-Sakhbarí. The people of el-Sirr and el-Dháhireh assisted the Imám with contributions of men and money. Thence he proceeded to the Fort of el-Ghabbí, in which was posted the main body of the Al-Hilál with "Bedú" and "Hadhr." Here there was a severe engagement, in the course of which the Imám's brother Je'ad-bin Murshid was killed. The Imám then marched to 'Ibrí, which he took, and remaining there two nights, he returned to el-Sakhbarí, after which he besieged the Fort of el-Ghabbí until God gave him victory over it, when he placed in it as Wálí Khamís-bin Rueyshid. In the town of Bát he placed as Wálí a person belonging to el-Rosták, associating with him Muhammed-bin Seyf el-Howkání. These two the Imám ordered to reduce the remaining towns of el-Dháhireh, and himself returned to Nezwá.

The Al-Hilál, who occupied a position by the water courses near Dhank, made war on the Wálís. The latter encountered them at el-Deir, routed them, and captured the camels of Ḳaṭan-bin Ḳaṭan, to make use of them in overcoming the others. They also laid siege to Ḳaṭan-bin Ḳaṭan's Fort. Ḳaṭan-bin Ḳaṭan then went to the Imám, and offered to surrender his Fort, if his camels were restored to him. These terms were accepted, and the Imám ordered the camels to be given back to Ḳaṭan, who surrendered his Fort and was confirmed as Wálí of it by the Imám.

The two Wálís then proceeded to Maḳaníyát, which was held by a Wazír of the el-Jibúr. The latter tribe raised the whole of the Benú-Hilál, "Bedú" and "Hadhr," and the Owlad el-Reís, and marched towards Maḳaníyát; but, considering themselves unequal to the relief of that place, they advanced on Bát. The Wálís feared for the safety of that town on account of the scanty supply of water on which the Governor relied, so the Musalmáns marched from before Maḳaníyát, and surprised the el-Jibúr at Bát. After an encounter, the el-Jibúr retreated towards Maḳaníyát; but the Musalmáns overtook them, and a battle was fought which lasted from morning prayer till noon. The Musalmáns had to exert themselves to the utmost, and the slaughter of the rebels was so great, that it is said they were unable to bury the slain separately, and were obliged to put seven and eight corpses in one pit. So God upheld the Musalmáns.

When intelligence of this affair reached the Imám, he assembled an army and marched with it against the el-Hináí of Bahlá, at which place he arrived on the night of the festival of the Hijj. He besieged the place for two months, all but three days, when the el-Jibúr came to the relief of the el-Hináí. They were encountered by the Imám's troops, and a severe engagement took place, in which Ḳásim-bin Mathkúr el-Dahmashí and a great number of the army of the el-Jibúr were slain. The latter then

retreated, leaving the Hináí chief and his followers besieged in the Fort. He was at length forced to surrender, and evacuated the place with all his men, arms, and property, leaving the Fort empty. The Imám after placing a Wálí there returned to Nezwá. The Imám next marched to Semáíl against Máni'-bin Sinán el-'Omeyrí. The latter, as soon as he heard of the Imám's approach, made his submission, and advised the Imám to suffer him to remain in the Fort, promising to be faithful for the future. This the Imám consented to, and, after completing his design of rebuilding the old Fort of Semáíl, returned to Nezwá.

After that, the Imám proceeded with a force to Maḳaníyát, where he attacked and defeated the enemy. The garrison, however, held out for nearly three months in the Fort, after which time the Imám captured it, and placed Mohammed-bin 'Alí there as Wálí.

Sa'íd el-Khíyálí and his clan ceased not to persevere in their enmity towards the Imám, and to correspond with the el-Jibúr, until the latter admitted them to the town of el-Sakhbarí, where they slew a man of the el-Dhaháhakeh and many of the Imám's soldiers and others, the number of whom God alone knows. The Imám's army was completely shut up, and several engagements were fought; one a very severe one at el-'Ajeyfíyeh, another at el-Ghábeh, another at el-Maṭhareh, another at el-Zíyádeh, and many more hard fights, so that the pillars of el-Islám were well nigh crumbled to ruins. The Wálí was deserted by many of the people, and left with only a small number, beset by the enemy banded to oppose him, so that his resolution was almost overcome by his terror. He remained besieged in the fort of el-Ghabbí, the governor of which was Mohammed-bin Seyf. When Mohammed-bin 'Alí, Wálí of Maḳaníyát, became aware of the state of affairs, he assembled a force to relieve Mohammed-bin Seyf at el-Ghabbí, and, coming on the enemy unawares, he entered the place, and defeated and scattered them in all directions. Some gained el-Sakhbarí, some fled to the desert, and the rest set out for Yanḳal, which place was held by Náṣir-bin Ḳaṭan. So God gave the victory to the Musalmáns.

After these occurrences, Máni'-bin Sinán secretly entered into correspondence with Seyf-bin Mohammed el-Hináí, and played the traitor by violating the compact he had entered into with the Imám. Having collected a force, the two entered Nezwá, the inhabitants of which place were not guiltless of treachery and disaffection, as this was effected with their secret connivance, and with the aid of some of the tribes. On entering Nezwá, they possessed themselves of el-'Akr.

The Imám retained only the fort, which they rigorously beset, but just as they were on the point of breaching the wall, succours arrived from Izkí and Bahlá, including the Benú-Ríyám. These having entered the place to the relief of the Imám, who was overjoyed at their arrival, the enemy's forces

dispersed and many of them were slain. This circumstance served to fortify the Imám's resolution and strengthen his power. He was then advised to destroy the fort of Máni'-bin Sinán, who hearing of the preparation of an army for service against him fled to Fanjá. The Imám's troops proceeded to raze the fort, on which Máni'-bin Sinán proceeded to Masḳaṭ, and thence to Lawá, where he joined Mohammed-bin Jafír. The Imám then ordered his army to Bilád-Seyt, at which place Seyf the Hináí had built a fort, after he went forth from Bahlá. The leader of this army was the Sheykh 'Abdullah-bin Mohammed-bin Ghassán, the author of the work entitled the "Khazánat ul-Akhyár fí bei' il-Kheiyár."

When the army arrived at Bilád-Seyt, the Hináí fled from the place, and, by order of the commander, the fort was razed to the ground. The Hináí then repaired to the Imám and sought his forgiveness, and all the tribes of 'Omán made their submission.

The Imám soon after assembled a large force with which he proceeded in person, accompanied by the Sheykh Khamís-bin Sa'íd of el-Rostáḳ, against Náṣir-bin Ḳaṭan of Yanḳal. After a siege of some days, the place surrendered, and the Imám after placing a Wálí there returned to el-Rostáḳ.

The Imám raised another strong force, in command of which he placed the Sheykh 'Abdullah-bin Mohammed-bin Ghassán of Nezwá, whom he instructed to march to el-Jow. With him he sent also the Sheykh Khamís-bin Rueyshid of Dhank and Háfidh-bin Jum'ah el-Hináí with Mohammed-bin 'Alí of el-Rostáḳ and Mohammed-bin Seyf el-Howḳání. On arrival, they gained possession of the place, and leaving Mohammed-bin Seyf as Wálí, the commander proceeded with his forces in the direction of the town of Lawá. For dissensions had broken out amongst the el-Jibúr and, in the strife, Mohammed-bin Jafír had been killed. 'Abdullah took up his quarters at the principal mosque, and his army surrounded the fort, which was held by Seyf, the son of the deceased Mohammed-bin Jafír el-Hiláli. Seyf's brothers and Wazírs, however, had recourse to the Christians° at Ṣohár, where Máni'-bin Sinán el-'Omeyrí, also, was then residing. Thence they harassed the Imám's army before Lawá by making night attacks, and they also aided the garrison with provisions and munitions of war. The sons of Mohammed-bin Jafír next wrote to the Wálí proposing terms of peace, but he, aware this was merely a ruse, sent a detachment against them under Mohammed-bin 'Alí, who fell on the enemy before daybreak at a place called Manḳal, where the southern part of the Fort abuts on the seashore. The millstones of war revolved amongst them, and after a severe engagement Mohammed retired with his forces to the fort of Lawá. They continued to besiege the Fort until Seyf-bin Mohammed sent to them, begging to be allowed safe egress from the place. The Wálí gave him the required guarantee, and he evacuated the fort with his followers, on which

the Wálí entered it. During the siege, the Wálí had received assistance from Náṣir-bin Ḳaṭan and the men of the el-'Umúr. 'Abdullah having placed a governor there returned himself to the Imám.

The Imám afterwards raised another army, in command of which he placed Mes'úd-bin Ramadhán and ordered him to lead them to Masḳaṭ. He marched until he arrived at the well called el-Rúleh[10] at el-Maṭreh. There the millstones of death revolved between the Musalmáns and the unbelievers, and God granted victory to the former, who demolished the high towers of Masḳaṭ. Many of the unbelievers were slain, after which they sued for peace, which was granted to them by the Wálí, on condition of their restoring all the property of the el-'Umúr, which was in their possession, and also that of the Shí'ahs[11] of Ṣohár. On their submitting to these terms, the Wálí assured them of safety, and after obtaining from them pledges of good faith, returned to the Imám.

Máni'-bin Sinán meanwhile ceased not to cherish secret enmity against the Imám and to preach rebellion against his Government. So Maddád-bin Holwán asked permission of the Imám to compass Máni's death by stratagem. The Imám having consented, Maddád wrote to Máni', inviting him to come to the fort of Lawá and expressing himself in such kind language that it disposed the other to accede. Now the Wálí of Lawá at that time was Háfidh-bin Seyf. El-Maddád ceased not to ply the 'Omeyrí with letters couched in terms of friendly advice, and to adjure him on the true faith not to allow suspicions of evil to enter his heart. Máni' rejoiced at this and placed confidence in Maddád's counsels. He was then residing at the town of Dibbá, from which place he rode into Ṣohár, where he halted some days awaiting further advices from Maddád. The latter renewed the promises he had made, and fixed a certain night on which he engaged he should have admission to the Fort, on which Máni' rode to Lawá and alighted in the town.

On the appointed night, the Wálí dispersed his forces and caused them to wander about the streets, as if about to depart; it being, however, arranged amongst them that they should concentrate on Mani' from the right and left. Before Máni' was aware of their intentions, the troops had surrounded him from both sides, and he was seized and slain on the spot, and his followers dispersed, those who remained by him being slain.

The Imám next prepared a force, the command of which he gave to 'Alí-bin Ahmed, assisted by his cousins of the Al-Ya'rub, and ordered him to proceed to the town of Julfár, which is el-Ṣir.[12] In those days, that place was held by the Persian Náṣiruddín with a force of Persians. Ahmed-bin 'Alí proceeded to besiege them in the fort of el-Ṣir, the Persians actively defending themselves, and some hard fighting occurred. Some of the people of el-Ṣir sided with the Persians against the Imám's forces. There was

a flanking tower connected by a wall with the fort, and in this tower were stationed a body of the garrison who kept up a fire by night and day. On the sea side there were also two ships of the Christians, which by the fire of their guns protected the fort from assault by the Musalmáns. The latter determined to attack the tower, which they seized by a night assault, and from thence they gained possession of the fort, one of the leaders of the army was placed there as Wálí. More troops came up afterwards, amongst them a body of the el-Dahámish and Khamís-bin Mahzam. There was also another Fort situated on the seashore held by the el-Efrenj.[13] The Imám's army entered this place by day and took possession of it, and besieged those who were in the fort, which they occupied themselves. The power of the unbelievers was humbled, and they sued for peace, which was granted them, and they evacuated the fort, in which the Wálí placed a garrison. Leaving with the latter a portion of his army 'Alí-bin Ahmed, they returned with the remainder to Nezwá. The Imám was rejoiced at his arrival and at the news of the capture of el-Ṣir.

The Imám next ordered Háfidh-bin Seyf, the Wálí of Lawá, who had a body of el-'Amúr with him, to proceed and build a fort against Ṣohár, some of the inhabitants of which town had been inviting him to take the place. The Wálí accordingly summoned all in the neighbourhood from the towns of the Benú-Khálid, Benú-Lám, and the el-'Amúr, and a numerous force assembled. The Wálí then marched on Ṣohár and passed the night in the village of 'Amak. Next day, in the forenoon, he reached Ṣohár district without being discovered by any of his enemies. This was on the last day of el-Moharram, A. H. 1043 [A. D. 1633]. He encamped in a quarter of Ṣohár, called el-Bid'ah, and the Musalmáns commenced an attack on the unbelievers. The combat raged fiercely for a time, the Christians keeping up a fire of cannon from the fort. The Wálí then changed his position, the fighting and cannonading continuing. A cannon shot pierced through the ranks of the besiegers until it reached the "Mejlis" of the Wálí and struck Ráshid-bin 'Abbád, who thus suffered the death of a martyr. A fort was then erected by the Wálí's orders, and he took up his position in it. There ceased not to be warfare between them night and day.[14]

After this the Ḳádhí Ḳhamís-bin Sa'íd of el-Rostáḳ proceeded with his followers to the village of Búsher,[15] where he received a message from the Christians asking for peace, which request he granted.

Afterwards he sent on his messengers to Masḳaṭ and, having mounted himself, rode to el-Maṭreh, where he was met by the leaders of the Christians, and terms of peace were agreed upon. Khamís thereupon ordered the abandonment of the strong positions he had occupied against them, and allowed free communication to be re-established with the town. In this manner hostilities were avoided.

The Imám next despatched a force against Ṣúr, which besieged and took that place. A portion of the force went to Ḳeríyát, where the Christians possessed a Fort. The Musalmáns erected a fort there and took that of the Christians. Thus the Imám acquired possession of the whole kingdom of 'Omán excepting Ṣohár and Masḳaṭ.

Meanwhile Náṣir-bin Ḳaṭan continued to make raids into 'Omán every year from el-Aḥsá,[16] carrying off cattle and pillaging the country and returning to el-Aḥsá. The Imám therefore wrote to his Wálí, Mohammed-bin Seyf el-Howkání, directing him to obtain information of Náṣir's movements, and as soon as he heard of his approach, to intercept him with an army beyond the frontier of 'Omán. The Wálí accordingly collected a force of "Bedú" and "Hadhr," and when he heard of Náṣir's approach advanced to meet him. Náṣir hearing of the Imám's army made for el-Dhafreh and entered its fort, the Benú-Yás assisting him. Thence he sent messengers to the Wálí to sue for peace. The Wálí being in straits for provisions, and distant from his supplies, agreed to make peace on condition of Náṣir restoring all plundered property in his possession and paying compensation for what had been continued, after which the Wálí retired with his followers. Náṣir, however, collected the Bedouins of el-Dhafreh and proceeded to attack the fort of el-Jow, of which Ahmed-bin Khalf was Wálí. Náṣir being joined by all the inhabitants, who aided him against the Wálí, laid siege to the fort; but the Wálís of el-Báṭineh and el-Dháhireh, hearing of this, sent succours to Ahmed-bin Khalf, and the enemy's forces retired from the district. The chief Wálí then came with an army from Nezwá, and ordered the demolition of all the Forts of el-Jow, except that of the Imám, and the enemies were dispersed. 'Omeyr-bin Mohammed fled to the Christians at Ṣohár, and others made for the hill pass of Júlfár, where they took to highway robbery and pillaging the districts. The Wálís proceeded against them, and some were killed and others fled. The Wálí having seized their camels returned to 'Omán. Náṣir-bin Ḳaṭan then led his followers to el-Báṭineh, and made raids on the camels of the Benú-Khálid and Benú-Lám.[17] They also plundered the women of their ornaments and clothes, after which they retired to el-Aḥsá. Soon after, he again invaded 'Omán, and advanced towards el-Báṭineh, in order to pillage that district. The Imám, however, assembled an army to repel him, and placed in command 'Alí-bin Ahmed, supported by Mohammed-bin Ṣalt el-Ríyámí, 'Alí-bin Mohammed-el-'Ibrí, and Ahmed-bin Belhasan el-Búsherí. They proceeded to the town of Lawá, where they encountered Náṣir-bin Ḳaṭan and his force. An engagement occurred, in which Náṣir was worsted, and fled to Majís, pursued by the Wálí and his followers. Náṣir then made for el-Shemál, and the Wálí rode in pursuit. The first to come up with Náṣir were Ahmed-bin Belhasan, and Murád and Ráshid-bin Hisám, and a few of the

faithful,[18] who overtook him at a place called el-Kharús. This advanced party of the Musalmáns having been assailed by Náṣir's force before the main body of the Imám's army came up, they were slain to a man. God alone is Immortal! When the army arrived at the spot, they saw their comrades lying dead, and not a man of Náṣir's force was in sight.

About this time Hamíd, *alias* Mohammed-bin 'Othmán, attacked the district of el-Sirr, where Mohammed-bin Seyf el-Howḳáni was Wálí. Sa'íd-bin Khalfán, who happened to be in el-Sirr at the time, demanded an interview with Ibn-Hamíd, and they met at el-Ghabbí, in the mosque of el-Sharí'ah, when Sa'íd demanded restitution of the property they had plundered; but the other refused and became still more insolent and audacious, so that Sa'íd was obliged to have him imprisoned in irons in the fort of el-Ghabbí. Sa'íd then proceeded to el-Rosṭáḳ and informed the Imám of the seizure of Mohammed-bin 'Otlmán at el-Ghabbí. The Imám ordered him to be brought to el-Rosṭáḳ, and he was accordingly conveyed there in fetters, and remained in confinement for seven months when he died.

The Imám soon after raised another army under command of Sa'íd-bin Khalfán, supported by 'Omeyr-bin Mohammed-bin Jafír. This force proceeded with the design of seizing the camel herds of Náṣir-bin Ḳaṭan el-Hiláli. Before they reached the spot where the camels were, they were encountered, at a place named el-Sha'íb near el-Dhafrah, by the Benú-Yás, and a battle ensued, in which the leader of the Benú-Yás, Saḳeyr-bin 'Isá, and his brother Mohammed with a number of the tribe were slain. On this they sued for peace, which the Wálí granted, and the army returned. The Imám then directed them to proceed to a place called Daghfis, where Náṣir-bin Ḳaṭan had herds of camels. They succeeded in capturing these camels, which were made over to the charge of 'Omeyr-bin Mohammed-bin Jafír, but the latter's brother, at the instigation of others, restored the camels to Náṣir-bin Ḳaṭan. The latter and his followers ceased not to pillage 'Omán until he became the dread of "Bedú" and "Hadhr," and the people of the desert sought refuge in the villages. On the occasion of one of his raiding expeditions, Náṣir halted with his army in the south, and sent a body of his people to close the passes. The Imám sent an army against him under Seyf-bin Málik and Seyf-bin Abul-'Arab. The advanced guard of the Imám's force came suddenly on Náṣir's force and, being few in comparison with the latter, they were all slain. Náṣir then withdrew to el-Ahsá, and the Imám's army returned.

After this God aided the Imám of the Musalmáns against all wrong-doers, whom he ejected from their habitations and removed with the strong arm. He took pledges from the disaffected and humbled their leaders, crushed the tyrannical, and checked all oppressors. God was on his side and bestowed His grace on him, so that el-Islám was exalted and shone forth,

whilst evil and wrong-doing hid their heads. Justice was extended to all the people of 'Omán, whether "Bedú" or "Hadhr." There remained only the party of Christians, who held out within the walls of Masḳaṭ, and these had suffered from war to such an extent that they had become weak, and their power was falling to decay. Their allies were dispersed, and death and slaughter had well nigh done their work on the majority of them.

Then God decreed that the Imám should die, and this event occurred on Friday ten days before the end of Rabí' ul-Ákhir, A. H. 1050 [A. D 1640],[19] his reign having lasted twenty-six years. All the just were content with, nay devoted to him. He was buried at Nezwá, where his tomb is well known.

The Ima'm Sulṭa'n-bin Seyf. On the same day on which the Imám Náṣir-bin Murshid-bin Málik expired, the Musalmáns elected his cousin the Imám Sulṭán-bin Seyf-bin Málik. This Prince ruled justly, and was active and diligent in the service of God, failing in no respect. He waged war on the Christians, who still remained in Masḳaṭ, and personally conducted the operations against them until God gave him the victory over them and he took the place.[20] He continued afterwards to carry on war against them by land and sea wherever he found them, and succeeded in taking many of their towns and ships, and enriched himself with much booty taken from them. It is said that he built the fort which is at Nezwá entirely from the spoil of Ṣirr, and it took him twelve years to complete the work. He also constructed the aqueduct of el-Birkeh, which is between Izkí and Nezwá, but nearer to the former place. It is probable that strictures were passed on him as regards his Imámship on account of his engaging in commerce, as he had agents who were known to trade on his account. In his time there were many learned men in 'Omán. Wealth also increased, and the country was prosperous and brilliant, the people gratefully enjoying tranquillity. The harvests were abundant and prices low. He was affable to his subjects and liked by all. He used to walk out without a guard and sit and converse with the people. He would salute all, great or little, slave or free. Thus he continued assiduously to administer the Government until his death, which occurred on Friday morning, the 16th of Thul-Ḳa'deh, A. H. 1090 [4th October, 1680.] His body was interred where the Imám Náṣir-bin Murshid had been buried.

The Ima'm Bel'arab-bin Sulṭa'n. They then elected his son Bel'arab-bin Sulṭán-bin Seyf-bin Málik. This prince was generous and beneficent, and the people ceased not to be grateful to him and to extol his virtue. He removed from Nezwá to Yabrín, which he made a flourishing place and where he built a fort. But strife broke out between the Imám and his brother Seyf, and in the course of their contention many of the people of 'Omán, learned men, elders, and pious persons, suffered great troubles. Many

souls went to perdition from following the opinions and advice of the foolish.

The Imám, having gone on an expedition to el-Shemál, on his return was forbidden entry to Nezwá by the inhabitants, on which he went to Yabrín.

THE IMA'M SEYF-BIN SULṬA'N. The majority of the people of 'Omán then assembled, and conferred the Imámate on his brother Seyf-bin Sulṭán; but I conceive that most of them entered into the matter from fear of consequences, and that some suffered for refusing to join in the plot.

Seyf then went against his brother, and took all the forts of 'Omán, except Yabrín which he besieged, and fighting continued until Bel'arab died in the castle. His adherents begged to be allowed to quit the place unmolested, and Seyf consented. I imagine that some of the learned continued to regard Bel'arab as Imám up to the time of his death, looking on Seyf as a rebel against his brother.

After that, Seyf subdued all 'Omán and ruled justly, protecting the weak from the strong, and inspiring the tribes of 'Omán and other countries with fear. He made war on the Christians in every country, drove them from their abodes and uprooted them from places where they had established themselves. He wrested from them Bender-Mombásah, Jezíret el-Khadhrá,[21] Kilwah, Battah, and other places belonging to them.

'Omán became very prosperous, and the Imám constructed many aqueducts, and planted date trees and other descriptions of trees. The Imám amassed much wealth, and possessed many male and female slaves, for he was very greedy of wealth. 'Omán was strong and prosperous under his sway, and he went on in this manner until he died at el-Rosṭáḳ and was buried there. His death occurred on Friday night, three days before the end of Ramadhán, A. H. 1120 [A. D. 1708.]

THE IMA'M SULṬA'N-BIN SEYF-BIN MA'LIK was then elected Imám and governed firmly and diligently, warring against the foes by land and by sea. He attacked the Persians in several places, and drove them from their possessions. He also built the fort of el-Hazam, and removed from el-Rosṭáḳ to that place. He expended all the wealth he had inherited from his father, and moreover borrowed lacs from the property of the mosques and religious endowments. He attacked and took el-Bahrein; and neither the people of 'Omán, nor of any other country, ventured to stir against him. At length, he died in the fort of el-Hazam, on Wednesday five days before the end of Jumádí el-Á'khir, A. H. 1131 [A. D. 1718], and was buried there.

Thereupon there occurred a difference between the el-Ya'árabeh and the heads of the tribes, who were clannish and touchy. They wished to elect in the Imám's place his son Seyf, who was still of unripe years.

But the men of learning, as well as the daughter of the Imám Seyf,

desired that the Imámate should be conferred on Mohenná-bin Sulṭán, considering him worthy of the position and powerful enough to maintain it. They were moreover not aware of anything in his character or conduct which should exclude him from reigning. They argued also that the Imámate of a boy was not allowable in any circumstances. It would not be lawful for him to lead the prayers; how then could he be Imám of the country, to govern it, and have power over the property, lives, and honor of the people? When it was not lawful for him to take possession of his own property, how could it be right that he should have charge of the property of God, or of orphans, or of absentees, and others incapacitated for the administration of their affairs?

The Sheykh 'Adí-bin Suleimán el-Thahalí perceived that the people favoured the claims of the Imám's son, and though he did not consider himself justified in assisting them in that course, he feared that, as the assembled people were armed, opposition might induce them to use their weapons and lead to bloodshed. Accordingly he wished to silence them and break up the assembly. So he said to them 'Seyf is "Amám" or "before you.'" On this, they proclaimed him Imám, and fired the guns to announce the event. The news spread throughout 'Omán that Seyf-bin Sulṭán was Imám. When, however, the commotion had subsided, and people had quieted down, they brought the Sheykh Muhenná secretly into the fort and elected him Imám. This was in the same month and year in which Sulṭán-bin Seyf died.

The Im'am Muhenna-bin Sulṭán. The new Imám applied himself to the Government, and the people enjoyed tranquillity during his time. He abolished the custom duties at Masḳaṭ, and appointed no agent to reside there, so that the inhabitants made profit by the trade of the place. Prices fell and the harvests were rich. None of the learned refused allegiance to Muhenná. He continued to reign for one year when he was slain. I shall, if it be the will of God, narrate the circumstances attending his slaughter, and the causes of the disturbances which took place in 'Omán and of the condition to which the affairs of its people tended, in a separate book.

Book VII.

Account of the Civil Wars in 'Omán and of the state to which the country was reduced. A. D. 1718 to A. D. 1728.

After the election of Muhenná-bin Sulṭán, the el-Ya'árabeh and people of el-Rostáḳ ceased not to cherish enmity against him and the Ḳádhí 'Adí-bin Suleimán el-Ṭhahalí and to urge Ya'rab-bin Bel'arab to rise against the Imám; which he at length did, and took possession of Masḳaṭ, the Wálí of which was at that time Mes'úd-bin Mohammed-bin Mes'úd el-Ṣárimí el-Ríyámí. As Ya'rab did not enter Masḳaṭ with a force, it is probable the

inhabitants were not guiltless of treason towards the Imám Muhenná. The latter had gone to Felej el-Bazíl in the districts of el-Jow, but as soon as he heard this intelligence, he returned to el-Rostáḳ and spared no effort to meet the emergency. He called on the people of 'Omán to aid him against the enemy, but they did not respond to his call and abandoned him to his fate. The people of el-Rostáḳ had besieged him in the Fort. Ya'rab, hearing this, came from Masḳaṭ to el-Rostaḳ, and summoned Muhenná to come forth from the Fort, offering him safe-conduct for himself and followers and property. Muhenná reflected on his position: abandoned as he was and unaided by any of the people of 'Omán, he was evidently helpless, and accordingly accepted the proffered terms and came down from the Fort. By this act, his Imámate came to an end. Notwithstanding the promises of security, he was immediately seized, fettered, and placed in the stocks, with one of his companions. Soon after, some of his enemies' servants came, and slaughtered them both as they lay bound and helpless. Ya'rab then assumed the reins of government, but did not aspire to the Imámate, which office pertained to his cousin Seyf-bin Sulṭán, contenting himself with acting as regent for the latter, who was too young to assume the Government himself. All the Forts of 'Omán surrendered to them, and all the tribes made their submission. This was in the year 1133 A. H. [A. D. 1720.]

Matters went on in this way for a year, after which the Ḳádhí 'Adí-bin Suleimán el-Thahalí proposed to Ya'rab that he should repent of all his misdeeds, his oppression of the Musalmáns, and his rebellion against Mohenná-bin Sulṭán and seizure of the Government of the Musalmáns. In case of his doing this, Ya'rab would be absolved of the guilt of rebellion, and it would not be necessary for him to make restitution for what he had destroyed; for compensation is not incumbent on one who has repented and received absolution. Ya'rab followed these counsels, on which he was made Imám in the year 1134 A. H. [A. D. 1721.]

The Ima'm Ya'rab-bin Bel'arab. He then received charge of the Government in his own name and the various forts of 'Omán were surrendered to him. After remaining a few days at el-Rostáḳ, he proceeded to Nezwá, which he entered on the 29th of el-Sha'bán of the same year. The people of el-Rostáḳ were not content that Ya'rab should be Imám, and displayed a preference for the Sayyid Seyf-bin Sulṭán. They constantly wrote to Bel'arab-bin Náṣir, the maternal uncle of the Seyyid Seyf-bin Sulṭán, who was at Nezwá with the Imám Ya'rab. They ceased not to urge Bel'arab until he left Nezwá, on the 7th of Showwál of that year, and proceeded to Bilád-Seyt, where he succeeded in binding the Benú-Hináh to support him by engaging to release them from the restrictions placed on them by the Imám Náṣir-bin Murshid in the matters of building, carrying arms, &c. He also gave them rich presents. They accordingly took him to el-

Rostáḳ, where fighting went on, until they succeeded in ejecting the Wálí from the place. They set fire to the gate of the Fort, and the whole front of the place was burnt, and many leaders of the Benú-Hináh, as also some chiefs of the Benú-'Adí, were burnt to death. From what I have gathered, it seems one hundred and fifty lives were lost by the fire. Many books also were destroyed on this occasion, such as the "*Bayán ul-Shara'*," "*el-Muṣannif*," "*Kitáb ul-Istiḳámeh*," "*Mujlibát ul-Ṭilismát*," of about forty volumes. Many other works were burnt, which were unique in 'Omán. Through this fire a vast treasure was discovered.

When intelligence of what the people of el-Rostáḳ had done reached the Imám Ya'rab, he detached a body of horsemen[1] under the command of the Sheykh Ṣálih-bin Mohammed-bin Khalf el-Suleymí, and ordered them to proceed to el-Rostáḳ; but after reaching 'Awábí, they were obliged to retreat, not being strong enough to fight. Bel'arab-bin Náṣir then wrote to the Wálí of Maskat, Himyer-bin Suleimán-bin Ahmed el-Ríyámí, to surrender that place to them, which he did. The town of Nakhl also was delivered up without a blow. The insurgents then sent forth a detachment under Málik bin-Seyf el-Ya'rabí, who succeeded in taking Semáíl without opposition, the Wálí evacuating the place. This was in the month of Thul-Ḳa'deh of the same year. The Benú-Rúáheh joined Málik, who next marched to Izkí, which he took without any fighting. Ya'rab then marched with his adherents of the Nezwá people and the Benú-Ríyám, attended by the Ḳádhí 'Adí-bin Suleimán el-Thahalí, and came to Izkí. The Sheykhs of that place declared for him, and came out to meet him with offers of hospitality and supplies. For two days he remained writing to Málik-bin Seyf, summoning him to come forth from the Fort. And as he refused to do so after that time, Ya'rab commenced hostilities and fired twice on him with cannon. The detachment of the Benú-Hináh under Ṣáhib el-'Anbúr[2] of el-Rostáḳ, however, coming up against Ya'rab, his army was scattered, and he, finding himself deserted, returned to Nezwá. The Ḳádhí 'Adí-bin Suleimán fled to el-Rostáḳ, where the people seized him and Suleimán-bin Khalfán, and bound them to the pillory, where they were slain by some of Bel'arab-bin Náṣir's people, and their bodies were dragged through the streets by the people of el-Rostáḳ. This occurred on the feast of the Hijj in the same year. Ṣáhib el-'Anbúr then proceeded to Nezwá, and commenced writing to Ya'rab, urging him to come forth from the Fort. Some of the Nezwá people, also, went to him and asked him to evacuate the place, in order to save bloodshed. They did not cease importuning him to this end, until at length he consented, on condition of their leaving him in the Fort of Yabrín and abstaining from molesting him. They entered into a compact with him to that effect, on which he went forth from Nezwá. By this act his Imámate terminated. He proceeded straight to Yabrín, and Ṣáhib

el-'Anbúr entered the Fort of Nezwá, and firing a salute from all the guns proclaimed Seyf-bin Sulṭán Imám.

THE IMÁM SEYF-BIN SULṬA'N. All the forts of 'Omán were surrendered to him, and all the tribes and towns submitted to his authority. Matters went on in this wise for two months all but three days, when it was the will of God to bring to pass what He had foreseen would befall the people of 'Omán, on account of their fickle and changeable behaviour. For God does not send vicissitudes on a people until they are untrue to themselves. In the trials He sends, he who is steadfast in his religion is distinguished from the backslider and hypocrite. God said those words, *"Do men imagine it shall be sufficient for them to say, 'we believe,' while they be not proved? We proved heretofore those who were before them; for God will surely know those who are sincere, and He will surely know the liars."*[3]

God then foresaw what was predestined to occur, that the actions of all men should come to light, and the evildoer suffer for his misdeeds, and the obedient be fortified, each being requited according to his good or evil deeds, like as pure gold is tested by fire. It has been said too, "By trial is a man honored or despised."

When it was settled that Bel'arab-bin Náṣir should administer the Government as regent, and that Seyf-bin Sulṭán was Imám, the various tribes and chiefs came to offer their congratulations on this. Bel'arab-bin Náṣir on this occasion let fall threats against certain tribes, especially the Benú-Ghháfir[4] and the people of Bahlá. It is said when Mohammed-bin Náṣir-bin 'Ámir el-Ghháfirí came with a party of his tribe, the Seyyid Bel'arab uttered menaces against them, on which Mohammed-bin Náṣir retired deeply offended, and entered into correspondence with Ya'rab-bin Bel'arab and the people of Bahlá, urging them to rise in revolt. He went also himself to the Bedouins of el-Dhafrah, the Benú-Na'ím, Benú-Ḳatab, and the rest.

Bel'arab on his part sent to invite the chiefs of Nezwá to join him, and a large number of them did so, and were received with honor, and desired to give their allegiance to Seyf-bin Sulṭán. He then sent a detachment[5] under his brother Suleimán-bin Náṣir with orders to proceed by Wádí-Semáíl, and bring Ya'rab to el-Rostáḳ. He ordered the Nezwá people to accompany this force, but they ceased not to ask the chiefs of el-Rostáḳ to intercede with him to excuse them from this duty until he consented. The detachment proceeded as far as Farḳ, where they passed the night, and the people of Nezwá sent them food and refreshments. Suddenly, they heard the firing of cannon from the Fort of Nezwá, and enquiring what had happened, were informed that Ya'rab-bin Bel'arab had entered the Fort. Thereupon they returned to Izkí, where Suleimán-bin Náṣir seized the Fort and remained in the town. Bel'arab-bin Náṣir had meanwhile despatched a second detachment against Ya'rab by way of el-Dháhireh, but on their

reaching Bahlá, the people of that place seized and imprisoned them there. A third party, which was sent to Wádí Benî-Ghâfir, was defeated and retired to el-Rostáḳ.

Ya'rab, on the other hand, sent a detachment with two guns against Izkí. When they arrived before the place, they opened fire on the Fort, but were worsted and retired to Nezwá after losing several men. He then sent another force against Izkí. They halted for a day on the west side of the town, and the following morning saw them in retreat on Nezwá without having struck a blow. A third force, also, was sent which occupied the western side of Izkí, and bombarded the Fort with cannon for about ten days, after which Málik-bin Náṣir arrived at Izkí from el-Rostáḳ, and, having been joined by the garrison, made a sortie on Ya'rab's troops, but was repulsed. The Bedouins of Ya'rab's army attacked and plundered Suddá and the quarter named el-Rahhá of Izkí, and burned the abode of Himyer-bin Manír outside el-Rahhá. The leaders of Ya'rab's force next attacked el-Yemen tribe, but were defeated, and one of the commanders, Mohammed-bin Sa'íd-bin Zíyád of Bahlá, was killed.

Málik-bin Náṣir, having been told that the el-Nizár[6] had joined Ya'rab's men in the attack on the el-Yemen, sent for the Sheykhs of the former clan and placed them in irons in the chief mosque. He then sent to the people of el-Sharḳíyeh, and a large army of them came to his aid. The Benú-Hináh also came in large numbers, and the whole having united at Izkí attacked Ya'rab's force. The drums and a small body of men were sent out by the side of el-Manzalíyeh, and the main body marched out from the directions of el-'Atab on Friday at sunset. A great battle was fought, in which the musketry rattled like peals of thunder, and swords flashed like lightning. The result was the defeat of Ya'rab's army. The slaughter was great: from what I have heard, three hundred men fell on both sides, but God knows!

Náṣir-bin Málik then marched with his followers on the town of Manh, and a detachment attacked Faleyj of Wádí el-Hajar, killed many of the inhabitants, and plundered all that they found in the place. They then burned down the houses of Zakít and Mahyúl, after which they reached Manh, where they plundered the "Hujreh" of Ma'mad, burned the houses, and slew numbers of the inhabitants, who were dispersed in all directions. They next marched on Nezwá, and pitched their camp at the mosque of el-Makhass of Farḳ, and laid siege to Nezwá. They destroyed the cultivation, and burned many sugar-cane fields of el-Heylí and el-Khadhrá. They also burned the houses of Farḳ, and committed depredations everywhere.

The people of Nezwá and Ya'rab's followers sallied out against them, and, after an engagement in which several were slain on each side, both armies fell back to their former positions. After this, there was fighting

every day: many were killed and the people of Nezwá experienced much suffering.

At length, a great battle was fought, the like of which we have not heard of the forces of. The forces of Málik were well nigh put to flight only; when half of them had fled, the remainder were unable to escape, as the enemy had surrounded them like a ring. Despairing of escape from slaughter, they made a desperate rally and fought with fury. The Nezwá men, on the other hand, thought victory secured, and many commenced to plunder, each one trusting to his comrades to keep watch. In this situation, a body of Málik's men made a determined attack on them and routed them. In their flight they lost numbers in killed and wounded. The enemy pursued as far as a place called Jannúr el-Khoseh, near the bend of el-'Akr, slaying and capturing. A great number of the inhabitants of Nezwá fell on that day. Bel'arab then returned to his camp, and for some time desultory skirmishing daily occurred. At length, Málik marched out with all his force, excepting only a few, whom he left to guard his camp, and advanced as far as Hinát of el-'Akr. His plan was to attack that place from the enclosed garden of Showeykh, making loopholes in the wall for musketry. The people of Nezwá, however, sallied out against him, and the millstones of war revolved amongst them for an hour of that day, at the end of which Málik-bin Náṣir was slain, and his forces were routed and forced to retreat to their camp. They remained encamped there, but were much weakened by the fall of Náṣir. Fighting nevertheless continued between them and the people of Nezwá, until Mohammed-bin Náṣir the Ghafirí arrived with his force from el-Gharbíyeh, after having fought several severe battles at Wádí el-Ṣaḳal and in el-Jow, and at Dhank and el-Ghabbí. I refrain from describing these actions to avoid prolixity, and as moreover they are well known.

Mohammed-bin Náṣir now ordered an attack to be made on a body of the enemy in el-Makhádh. His forces accordingly attacked and surrounded them, and the fire of matchlocks was sustained from morning till night. When night fell, Mohammed-bin-Náṣir ordered an assault to be made on them from the el-Ṣaḳal side along the Wádí leading to Farḳ. The attack succeeded, and morning found the place completely evacuated, not one of the enemy being left in it, all having fled. At this time, the Seyyid Ya'rab was ill. Mohammed-bin Náṣir then returned to Nezwá, where he remained a few days, after which he ordered his army to march on el-Rostáḳ.

The siege of Nezwá had lasted two months all but six days.

On arrival at el-Rostáḳ, Mohammed-bin Náṣir encamped with his entire force at Felej el-Sharát. His men desired to assault a tower in which 'Alí-bin Mohammed Ṣáhib el-'Anbúr had ensconced himself; but Mohammed-bin Náṣir restrained them until Ṣáhib el-'Anbúr and his men commenced hostilities, when the assault was ordered. A severe fight ensued, in which

Ṣáhib el-'Anbúr and many of his people were slain and the remainder routed. Mohammed-bin Náṣir then returned to Felej el-Sharát, and, on the following day, entered Felej el-Madrá, where Bel'arab-bin Náṣir met him as a supplicant. Mohammed agreed to make peace on condition of his surrendering the Fort of el-Rostáḳ, and all other Forts in his possession.

They accordingly proceeded together to the Fort of el-Rostáḳ. Now Bel'arab meditated treachery towards Mohammed-bin Náṣir, but the latter, shrewd and cautious, declined to enter except with his men, and when all had entered, he entered also. As soon as they were in, his troops commenced to pillage the town, and they abducted so many children that they were sold into foreign countries. This treatment was the requital of their evil doing and of their treatment of the Ḳádhí of the Musalmáns 'Adí-bin Suleimán. "*Verily God will not change His grace which is in men, until they change the disposition in their souls by sin.*" The death of Ya'rab-bin Bel'arab occurred whilst Mohammed-bin Náṣir was at el-Rostáḳ, thirteen days before the expiry of Jumádí el-Ukhrá, A. H. 1135. [A. D. 1723]. The people of Nezwá, however, fearing the enemy would attack them, concealed the fact for nearly fifty days.

Mohammed-bin Náṣir ordered Bel'arab to be imprisoned in fetters, after he had commanded him to surrender all the Forts in his possession. There remained only Masḳaṭ and Birkeh[e] in the hands of the Benú-Hináh. Mohammed-bin Naṣir remained at el-Rostáḳ and proclaimed Seyf-bin Sulṭán Imám.

The people of el-Rostáḳ fled to the hills and valleys. I have heard that in a cavern, in the direction of the district of Mahálil, were found the bodies of about one hundred women and children, who had perished of thirst, afraid to return to el-Rostáḳ lest they should be carried off and sold into slavery.

Three days after he took el-Rostáḳ, Mohammed-bin Náṣir was joined by a re-inforcement of about fifteen hundred men of the Benú-Ḳoleyb and Benú-Ka'b, armed with matchlocks and spears. There also arrived Rahmeh-bin Maṭr-bin Rahmeh el-Hawalí with about 5000 "Bedú" and "Hadhr," amongst whom were some who did not understand Arabic[e] and were unable to distinguish friend from foe.

Khalf-bin Mubárik, known as el-Ḳaṣír [or the Dwarf], a native of el-Ghashb, who was not at el-Rostáḳ during the fighting, took possession of the Forts of Birkeh and Masḳaṭ, having with him the Benú-Hináh. Mohammed-bin Naṣir sent 'Alí-bin Mohammed el-Kharúsí as Wálí of the Fort of Barká, but he was slain and his followers returned to Mohammed-bin Náṣir at el-Rostáḳ. The latter thereupon directed the whole of his forces on Barká. So Rahmeh-bin Maṭr el-Hawalí marched with his contingent; also Hamzah-bin Hammád el-Ḳoleybí with his men, and Ahmed-bin 'Alí el-Ghafirí with the force contributed by Mohammed-bin Náṣir.

Likewise Mohammed-bin 'Adí-bin Suleimán el-Thahalí, with the men he had brought from el-Ṣír. Also Mohammed-bin Náṣir el-Harrásí with his clan. All these proceeded, each in command of his own division, until they reached Mesna'á. There a letter arrived from the Benú-Hináh, addressed by Kar'a el-Darmakí to Rahmeh-el-Hawalí saying: "Do not come further against us, as we are coming to meet you," in the sense of a threat. When Rahmeh read the letter, he understood its meaning, and at once ordered an advance on Barká, sending scouts ahead to that place. The latter finding Kar'a and his followers advancing against Rahmeh, returned with the intelligence. Rahmeh encountered them at a place called el-Ḳásim. Ḳodheyb el-Hawalí charged the enemy on horseback, followed closely by the remainder of the force. Ten of the enemy were killed, and Kar'a and his followers were routed. Ḳodheyb received a slight wound. Rahmeh then moved his men eastward, and halted at el-Hifrí,[10] which belongs to the el-Jibúr, to allow his men rest and refreshment. Thence he sent out his scouts, who reported that Khalf-bin Mubárik el-Ḳaṣír had moved by land and sea with an innumerable force. Those on the side of Mohammed-bin Náṣir amounted to 5000 men, "Bedú" and "Hadhr" of various tribes. The rival armies encountered to the west of Barká, and a severe contest ensued. Rahmeh's men had cannon, with which they fired on the vessels which were on the sea, and forced them to stand further out. The battle ended in the defeat of Khalf-bin Mubárik, who mounted a camel and fled. His forces were broken and pursued by those of Mohammed-bin Náṣir, who slew and captured many, until finding no refuge from slaughter many plunged into the sea, and endeavoured to gain the ships. These, however, had put to sea, and they failed to reach them. The victors meanwhile kept up a fire on them until all perished. The bodies were then stripped of arms and all else on them. When the dead bodies were thrown up by the sea, they found the number of killed amounted to 1012 men. The remainder of the fugitives were pursued until they entered the Fort of Barká. The adherents of Mohammed-bin Náṣir then encamped by the side of the hill at Barká, and laid siege to the Fort. Four days afterwards, the garrison embarked in the ships, and went to Masḳaṭ, leaving only a few men in the Fort, the town being empty. The army of Mohammed-bin Náṣir then returned to el-Rostáḳ, and Rahmeh returned to his own country.

Mohammed-bin Náṣir remained a time in el-Rostáḳ, where he had so severe an attack of small-pox, that fears were entertained for his life. When he recovered, he ordered an expedition to proceed to Yanḳal. He placed in el-Rostáḳ as Wálí Mohammed-bin Náṣir el-Harrásí, and with him in the Fort he left the Bahlá chiefs and Sinán-bin Mohammed-bin Sinán el-Mahthúr el-Ghafírí.

Mohammed-bin Náṣir and Seyf-bin Sulṭán then marched carrying

with them Bel'arab-bin Náṣir and all the Ya'árabeh in fetters," and proceeded until they reached Maḳaníyát. Mohammed-bin Náṣir's stay at el-Rostáḳ had lasted about two months. On arrival at Maḳaníyát, he sent to the tribes of Dháhireh and 'Omán and to the Benú-Yás, summoning them to his aid. They obeyed his call, and a large army of about 12,000 men assembled under him. His camp was at Felej el-Manádereh, on the Yanḳal side. On summoning the people of the town to surrender the Fort to him, they failed to do so, and returned him no answer. In the morning, he moved his camp, intending to occupy the high ground, above the source of the el-Mohídith stream of el-Baṭhá. The Benú-'Alí and their allies of Yanḳal opposed him, and a severe conflict occurred, in which many of the Benú-'Alí were slain, notably the son of their Sheykh Suleimán-bin Sálim. On Mohammed-bin Náṣir's side, Sálim-bin Zíyád el-Ghafirí, Seyf-bin Náṣir el-Shakeylí and one other were wounded.

Mohammed-bin Náṣir then encamped on the heights above the fountain head of the el-Mohídith stream, and besieged the garrison, firing on them from guns and matchlocks. Another engagement was fought, in which many were killed. On the side of Mohammed-bin Náṣir there fell the Wálí of Dhank, Mohammed-bin Khalf el-Ḳuyúdhí, and one of his cousins. They then cut off the supply of water by breaking up the aqueduct, on which the garrison accepted terms, and agreed to surrender the Forts. Intelligence next reached Mohammed-bin Náṣir that Sa'íd-bin Haweyd had entered el-Seleyf with his followers and joined the el-Ṣúáwafeh, who sided with the Benú-Hináh. He accordingly directed his army on el-Seleyf, and on arrival there sent a message to Sa'íd-bin Haweyd and the people of el-Seleyf, inviting them to make their submission, but they declined. A number of the el-Ṣúáwafeh of Ten'am, however, joined Mohammed-bin Náṣir, and tendered their allegiance. He then attacked the Fort of the el-Muráshíd of el-Seleyf, and overturned the walls, burying under the ruins all the men, women, and children, who were within the place. Sa'íd-bin Haweyd then requested safe passage for himself and his followers to his own district. Mohammed-bin Náṣir acceded to his request, and not only allowed him free egress, but supplied him with provisions for his journey. After this, there only remained at el-Seleyf the Forts of the el-Ṣúáwafeh and the el-Manádereh. The latter seeing what had befallen the el-Muráshíd, made their submission to Mohammed-bin Náṣir, who pardoned them and suffered them to remain unmolested in their stronghold.

The el-Ṣúáwafeh, on the contrary, held out, so Mohammed-bin Náṣir continued to besiege them, cutting down their date trees, and slaying them daily. He dismissed his Bedouin auxiliaries, retaining only the Benú-Yás and the "Hadhr" tribes. When the siege had lasted over two months, the garrison agreed to demolish the Fort with their own hands; on their doing

this, peace was concluded. Meanwhile Khalf-bin Mubárik el-Ḳaṣír, seeing Mohammed-bin Náṣir engaged in the siege of el-Seleyf, laid siege to el-Rostáḳ. Now Sabá' el-'Amúrí had previously taken the Fort of Ṣohár.

When Sinán-bin Mohammed el-Mahthúr el-Ghafirí, the warden of the Fort, was killed, Mohammed-bin Náṣir el-Harrásí and his followers came forth from the Fort of el-Rostáḳ, and, Khalf-bin Mubárik entering, the place was surrendered to him.

Sabá' el-'Amúrí had meanwhile taken the Fort of Ṣohár, and Mohammed-bin Náṣir found himself unable to return from el-Seleyf and march to the relief of el-Rostáḳ and Ṣohár, for fear his enemies in el-Dháhireh should become too strong for him.

Khalf el-Ḳaṣír then moved against the Fort of el-Hazam, the Wálí of which was 'Omer-bin Ṣálih-bin Mes'úd el-Ghafirí. He besieged the place, and diverted the course of the stream which supplied it with water. He then sent a message to the Wálí, offering safe passage for him and his men, on condition of their evacuating the Fort. The Wálí refused, and wrote to Mohammed-bin Náṣir to inform him of what had occurred, and that they had no water except a small quantity in a cistern. Mohammed, accordingly, having made peace with the people of el-Seleyf and razed their Fort, proceeded to el-Hazam with an innumerable army, and when he reached that place, fell upon Khalf's forces. After many had been slain, the latter took to flight, leaving their arms, ammunition, and provisions behind. Mohammed-bin Náṣir then returned to el-Dháhireh without visiting el-Rostáḳ, his object being Bilád-Seyt. Having assembled a numerous force of "Bedú" and "Hadhr," he marched from el-Dháhireh to Bilád-Seyt. The inhabitants refusing to comply with his summons to submission, he laid siege to the place, and his men having assaulted, slew many of the people.

He next attacked el-'Áridh, which belonged to the Benú-'Ádí, and took that place, and also Ghamar. The uplands of the Benú-Hináh fell into his hands, and none of that tribe remained in them. Some were slain, and those who asked quarter were sent away in safety. In the attack on Bilád-Seyt, about ten of Mohammed-bin Náṣir's men were slain and several wounded. He then ordered his army to Nezwá, where he remained about six months, during part of the winter, until harvest time. Having summoned the people of the Manah [or Manh] district to submit to him, they refused, so he sent a force against them which surrounded them, and cut down their date trees at Felej el-Fíkein and Jarr-'Álí, and, when their property was destroyed, they made their submission.

Mohammed-bin Náṣir then returned to el-Dháhireh, and, halting at el-Ghabbí of el-Sirr, busied himself raising a fresh army, until he had collected a large number of "Bedú" and "Hadhr." He ordered the people of el-Dháhireh

to convey the fresh dates to el-Hazam, and with them he sent the people of Wádí Benî-Ghâfir and their belongings. He then set out with all his forces for the settlements of the el-'Awámir in el-Sharḳíyeh. He was met by the el-'Awámir and the Âl-Wahíbeh[12] Bedouins and the Benú-Hináh, and a fierce battle took place, in which Mohammed-bin Náṣir's followers were well nigh put to flight; but they rallied and stood firm, and eventually the Benú-Hináh[13] were put to flight, and a great number of them was slain. The pursuit was kept up until they entered the Hujreh of el-'Aḳil. Mohammed-bin Náṣir and his followers returned in triumph to Yabrín, accompanied by the Seyyid Seyf-bin Sulṭán. Mohammed-bin Náṣir then returned to el-Dháhireh, to recruit his forces, and, being joined by a large number, returned to Nezwá. He collected all the people of Nezwá, and Izkí and Bahlá, also the Benú-Ríyám, and marched with them to Seiḳam. Thence he sent to summon Sa'íd-bin Haweyd el-Hináwí, and the followers who had joined him from el-'Aḳír and el-Ghâfât, and, on their refusal to submit, besieged them. Sa'íd-bin Haweyd then passed out, and proceeded through el-Dháhireh to Ṣohár, in order to raise men there and at Yanḳal, for the people of the latter place had broken the truce. A large force joined him, on which he returned to 'Amlá and drew in his forces. He collected many of the Benú-Hináh from Wádí el-'Ulá and all their villages. When he reached Felej el-'Aishí, he meditated an attack on Mohammed-bin Náṣir and his followers. Sa'íd-bin Haweyd had been away collecting forces for seven months and seven days, and Mohammed-bin Náṣir, fearing he might fall on him unawares, had distributed scouts throughout the districts, and these brought him the intelligence of the advance of Sa'íd with a large force. Mohammed ordered his troops to intercept him ere he reached the district, and they accordingly met the advancing foe at the entrance of el-Ghâfât. A great battle was fought, in which Sa'íd-bin Haweyd el-Hináwí was slain, and amongst those of his adherents who fell was Ghaṣn-el-'Alawí, chief of Yanḳal. The total number of Sa'íd's followers slain was two hundred, the remainder dispersed. Mohammed-bin Náṣir ordered recitations to be pronounced in every district of Bahlá and Nezwá, and the towns of el-Dháhireh to celebrate his victory.

His followers dragged the corpse of Sa'íd-bin Haweyd to the Fort of el-Ghâfât, in which were his family, children, and followers, expecting that on beholding the sight, they would surrender; but they refused to do so. The siege was therefore continued for two months longer, when the garrison, having eaten all their cattle, ran short of provisions. At this time Mubárik-bin Sa'íd-bin Bedr commanded the forces of Mohammed-bin Náṣir, who after the battle had returned to Yabrín. So, when their provisions were exhausted, and many had been slain, and their property destroyed, the garrison were granted terms on condition of their demolishing the Fort.

This they did with their own hands, on which they were suffered to depart in safety.

The Fort of el-'Aḳír continued, however, to hold out.

Mohammed-bin Náṣir then dismissed Mubárik-bin Sa'íd-bin Bedr, and appointed in his place Ráshid-bin Sa'íd Ráshid el-Ghafirí, who continued the siege of el-'Aḳír. He had under his orders the men of Bahlá, Nezwá, Izkí, and el-Dháhireh, and also the Benú-Ghafir, and Benú-Ríyám. They so closely invested the place, that not a soul could enter or leave it. When the provisions were exhausted, the garrison sued for peace, which was granted, the terms being the demolition of their Fort. They were accordingly obliged to demolish the walls, after losing all they possessed. There remained to them neither date trees nor water-courses, and they had consumed the whole of their cattle. So under these conditions they were granted peace and safety of their persons. After which the troops returned, each man to his native place.

Mohammed-bin Náṣir next prepared another force of "Bedú" and "Hadhr," and marched on the towns of the el-Habús of el-Sharḳíyeh, namely, Madheybí, and el-Rowdheh. At the former town, they encountered the army of Khalf-bin Mubárik el-Ḳaṣír, consisting of the el-Habús and others of the Benú-Hináh. In the battle which ensued, Khalf-bin Mubárik was defeated and forced to take refuge in the "Hujreh" of el-Madheybí. Mohammed-bin Náṣir besieged them, and began to cut down the date trees, on which they sued for peace and quarter. Mohammed acceded, not knowing that Khalf-bin Mubárik was with them in the "Hujreh." Afterwards a certain person came and informed him that Khalf was in the place, but it did not seem good to him to break the terms of peace. Khalf then fled from el-Madheybí, and Mohammed-bin Náṣir pursued him with his army until he reached Ibrá, which place Khalf entered, not imagining that Mohammed-bin Náṣir would pursue him so far. He abode with the el-Harth,[14] to whom Mohammed sent summoning them to submit themselves to him, and to eject Khalf from amongst them. On their refusing to do so, he made daily attacks on them, cutting down their date and other trees, and destroying their water-courses. Finding themselves powerless to cope with Mohammed-bin Náṣir, they secretly sent away Khalf from amongst them. The latter who was head of the whole of the Benú-Hináh, proceeded to Maskaṭ. After his departure, Mohammed-bin Náṣir made peace with the el-Harth, granting them an amnesty, and retiring from the place. The whole of el-Sharḳíyeh submitted to him. He then returned to Yabrín, and tarried a space at that place, which was his favourite residence.

He next went to el-Dháhireh and collected a numerous force there, with which he marched westwards, not one of his followers knowing whither he purposed to proceed. Passing through the districts of el-Na'ím,[15] he col-

lected men from that tribe and the Benú-Yás, and led them to Nejd el-Jezí, traversing the district of the Benú-Ḳoleyb, some of whom joined him. He then passed into the sea-board tract of el-Bâṭineh, causing terror to the people of Ṣohár, without, however, attacking them. He then marched eastward. The inhabitants of Felej el-Howásineh were alarmed lest he should destroy their valley. His troops seized and ate all the camels and cattle they found. Some amongst them had no conception who were their friends and who their enemies. Khalf-bin Mubárik having received intelligence of Mohammed's movements, encountered him at Afláj-'Ar'ar. A severe contest ensued, and Khalf's followers took to flight, and he himself was shut up in a house. Mohammed-bin Náṣir and his men went in pursuit of the flying enemy, not knowing of Khalf's being in that house. The latter, on his part, imagined that Mohammed satisfied with his victory had left him. Mohammed-bin Náṣir then entered el-Rostáḳ, and commenced destroying the water channels, and writing to the people, summoning them to submit. As they refused, he destroyed the aqueducts of el-Meyser, Bú-Tha'lab, and el-Hammám, and cut down some date groves. The people of el-Rostáḳ, being unable to sally forth to oppose him, at length thought of making their submission.

Mohammed-bin Náṣir now received intelligence that Ráshid-bin Sa'íd el-Ghâfirí had seized the Fort of Maḳaníyát, the Wálí of which was Mubárik-bin Sa'íd-bin Bedr. This was caused by Ráshid's jealousy of Mubárik on account of the preference shown for him by Mohammed-bin Náṣir. The latter on hearing the news ordered his forces to march on el-Rostáḳ, after having destroyed its water-courses. Meanwhile 'Alí-bin Náṣir-bin Ahmed el-Kelbání, went to Ráshid-bin Sa'íd, and by his advice induced him to make over the Fort to himself, guaranteeing that Mohammed-bin Náṣir would not punish him. So 'Alí-bin Náṣir took charge of the Fort until the arrival of Mohammed-bin Náṣir, who left Mubárik there as Wálí, with the tribe el-Hawátim, and himself returned to Yabrín, where he remained for a considerable time. Thence he proceeded with his attendants to Nezwá, and summoned the chiefs of tribes and learned men from the east and from the west of 'Omán. A great number of these having assembled, he demanded of them that he should be excused from waging wars, and administrating the affairs of the Musalmáns, and that they would appoint whomsoever they pleased to govern for the Seyyid Seyf-bin Sulṭán. However, the Ḳádhí Náṣir-bin Suleimán-bin Mohammed-bin Maddád, and 'Abdullah-bin Mohammed-bin Rushí-bin Maddád, who was Wálí of Nezwá fort, and the chiefs of tribes who were present, would not accept his resignation. They closed the gates of the Fort of Nezwá and el-'Akr, allowing none to enter or depart. All that day and night they ceased not to apply themselves to adjust the matter, until near morning they elected Mohammed-bin Náṣir Imám as a measure of precaution.

THE IMÁM MOHAMMED-BIN NA'ṢIR-BIN 'Á'MIR EL-GHA'FIRI'. The guns of the Fort of Nezwá were accordingly fired, and a proclamation was issued announcing the Imámate of Mohammed-bin Náṣir and offering honorable treatment and security to every tribe, whether "Yemen" or "Nizár," "Bedú" or "Hadhr," which should enter Nezwá to visit him.

This was on Saturday, seven days before the expiry of the month of el-Moharram, A. H. 1137 [A. D. 1724.]. The Imám remained at Nezwá to lead the prayers on the following Friday, after which he removed with his attendants to Yabrín, and, having dismissed his forces, tarried there a space.

Hearing that Máni'-bin Khamís el-'Azízí had attacked el Ghabbí, taken its Fort, plundered the bazar, and committed other depredations, he proceeded to that place, and scaled the Fort wall with only six followers. He gained the upper part of the Fort before the garrison were aware of his presence, and when they discovered him, they fled in terror, one of Máni'-bin Khamís's slaves being slain. In this manner he captured the Fort, and having appointed a Wálí, returned to Yabrín.

Soon after, Muhenná-bin 'Adí el-Ya'rabí with 'Á'mir-bin Suleimán-bin Bel'arab el-Ríyámí and Suleimán-bin Himyer-bin 'Alí el-Ya'rabí attacked and took the magazine of el-Birkeh. On hearing of this, Mohammed-bin Náṣir proceeded against them, and sent to the Ḳádhí Náṣir-bin Suleimán and the Wálí 'Abdullah-bin Mohammed, desiring him to join him with a force from Nezwá at Birkeh. He himself did not go to Nezwá. With the few soldiers and attendants he had with him, he attacked the enemy in the forenoon and put many to the sword. He then advised them to retire, and restore what they had taken from the magazine, but they refused and fought against him. They held the Mesjid el-Sharí'eh above el-Birkeh and the hill to the last, and broke up the water-course. Mohammed-bin Náṣir constructed a tower in the Mesjid below el-Sharí'eh el-Birkeh on the lower hill. They kept up a fire of matchlocks on either side and one of the Maghribí[16] horsemen of Mohammed-bin Náṣir's force was killed, and one wounded. He then ordered his men to attack the enemy, who fled in disorder, and Náṣir-bin Bel'arab el-Riyámí and 'Alí-bin Ṣálih, the chief of Kemeh, were made prisoners. This happened before the reinforcement from Nezwá had come up. Mohammed then ordered the dates to be conveyed to Yabrín, and returned himself to Nezwá, taking up his abode in the mosque of el-Ghantaḳ. He had intended to make war on the people of Tenúf,[17] but God saved them from this, and they met him and made promises that they would not act treacherously by him, on which he became reconciled to them. He then ordered all who owed allegiance to him in 'Omán to assemble; and accordingly, a large number having collected, he marched with them from Nezwá purposing to proceed to Dhank to arrange for the return of

the Washáhát to their own district, and to rebuild for the people of Dhank the Fort which he had destroyed when they were in allegiance to Khalf-bin-Mubárik. The Al-'Azíz, however, demurred to their return and to the rebuilding of the Fort. This tribe having collected some of the Bedouins and their own adherents, resolved to fight him and those of the el-Washáhát with him. The encounter took place at Dhank, and the Al-'Azíz, discovering their inability to cope with him, dispersed. Máni'-bin Khamís having gone to Seneyneh to the el-Na'ím, Mohammed went in search of him with a small body of his followers mounted on horses and swift camels, and coming on them unawares, made prisoner Máni'-bin Khamís and returned to Dhank.

On his return towards el-Ghabbí, he passed by the water-courses of the Al-'Azíz Bedouins, who had plundered the bazar of el-Ghabbí, and destroyed them, after which he went on to el-Ghabbí, and remained there until all those of the tribes of el-Dháhireh who were willing had assembled. He then proceeded to Yabrín, and after a short stay there came to Nezwá, and abode in the house of el-Mazra' until he had collected a force. He then went to Izkí, and gathered men from that place and also from all el-Sharḳíyeh. The Benú-Rúáheh were alarmed at his proceedings.

He next proceeded to Semáil and ceased not to admonish the el-Bekrín and people of el-Hílí and the tribe of 'Akkásheh. The people of el-Hílí and the 'Akkásheh having made peace with him and submitted, he sent them to the el-Bekrín to bring them to terms. As they were unable to prevail with the latter tribe, Mohammed-bin Náṣir ordered an attack to be made on them on a dark and rainy winter's night, amid thunder and lightning. They did not perceive him until he had gained the top of the wall, where a watchman was posted. He asked the latter, "For whom are you watching?" He replied, "fearing lest Mohammed-bin Náṣir should attack us." "This," he rejoined, "is Mohammed-bin Náṣir at your side." Those in the "Hujreh" then fled, and most of them were permitted to go forth unmolested. There only remained to be taken a tower and some upper rooms, in which were Bekr and his sons and cousins. A fire of matchlocks was kept up upon these until they were slain to the last man. Of Mohammed's followers four were slain, one of whom was a slave of his, named Bakhít el-Núbí [the Nubian], whom he had placed over all his slaves. He fell from a matchlock bullet. The "Hujreh" was razed to the ground. Semáil now paid up three years arrears of zekát. Before this the Al-'Omeyr had done much harm in the place, and had appropriated the property of absent persons. Mohammed-bin Náṣir therefore restored all property to the rightful owners. He imprisoned the Owlád Sa'íd-bin 'Alí and razed their "Hujreh" to the gronnd.

After that, Mohammed-bin Náṣir directed his forces on el-Heyl in el-

Bâṭineh, to intercept Khalf-bin Mubárik el-Ḳaṣír in his march from Masḳaṭ to el-Rostáḳ. He with his slaves patrolled the road as far as el-Ghobrah. Khalf-bin Mubárik, however, having ascertained that Mohammed had closed the road against him, and not being sufficiently strong to encounter him, remained at Masḳaṭ, and placed sentries on the roads and walls. Mohammed-bin Náṣir remained at el-Heyl for about half a month, during which time the el-Ma'áwal tribe came to terms with him, but subsequently broke faith.

He then returned to Semáíl, and taking with him men of that place proceeded against the Bedouins of 'Á́mer Rabí'ah and Á́l-Sa'alí, and those of the dwellers in el-Bâṭineh comprised under those names. He was himself mounted on a mare and armed with spear and scimitar, with which he struck right and left, hamstringing their camels, to prevent their carrying them away. Coming on a body of his enemies, he slew their men, on which the women, taking him for Khalf, cried out, "Quarter! O Khalf-bin Mubárik! we are in allegiance to you." He, however, redoubled his efforts in slaying them, riding in front of his men, so that none kept up with him save those on horseback or on swift camels. The Seyyid Seyf-bin Sulṭán was with him; indeed he was never separated from him in all his expeditions. After this, he returned to el-Hazam, and after remaining there a few days went to Sení in Wádí Benî-Ghâfir, where he remained a short time, and dismissed all his followers, except the guard and his personal retainers. He next went to el-Ghabbí and, after spending a few days there, returned to Yabrín, which was his chief residence.

At this time, the Bedouins had so infested all the roads of 'Omán, plundering and murdering, that people could only travel in large parties. The chief offenders were the Á́l-Wahíbeh, who had a chief whom they called Bú-Khark. Mohammed-bin Náṣir assembled them, with all their families, camels, and flocks, and commanded them to encamp round Yabrín. This he did, in order to show his resentment towards them: and he kept them so until their camels and flocks perished, they being powerless to resist him.

On the 11th of the month of el-Hijj, he issued forth with his followers in search of the Á́l-Wahíbeh. He destroyed their settlement of el-Sadeyreh, and slew all of them who were in that place. The rest fled to the low lying sands of 'Omán and its desert tracts, where no water is found, imagining he would be unable to reach them there, as the "Hadhr" Arabs had little knowledge of the routes of those localities, and it would be difficult for them to find the way to their haunts. But Mohammed-bin Náṣir followed them even there, and killed thirty-six of their chief men, and made prisoners of ninety-five. He also killed their camels and other cattle, and carried the prisoners bound with cords to Yabrín. But Abú-Khark escaped to Masḳaṭ and joined the Benú-Hináh. Mohammed-bin Náṣir kept the prisoners in

fetters at Yabrín until they all died. He remained at Yabrín some months after this. Abú-Khark then sent a message to Mohammed-bin Náṣir, saying that in future he would not molest any one, nor commit any depredations. And after those occurrences, from that day to this, we have not heard of any one being robbed or ill-treated on any of the roads of 'Omán, from the east of it to the west.

Mohammed-bin Náṣir then ordered a general levy of all in allegiance to him in 'Omán, from east to west. An immense force accordingly gathered round him at Yabrín, the number of which God only knows. He sent to the districts of the Benú-Hináh of Wálí el-'Ulá, and el-Heyl, and Ṣamm, and 'Omlá. All the Benú-Hináh submitted and none opposed him. He then proceeded to Yanḳal, and having encamped on the high ground, sent a summons to the garrison to surrender the Fort to him. They, however, refused and prepared to resist. One night, an inhabitant of Yanḳal named 'Aṣám came forth, and secretly made terms for himself, saying only, the place was not in his hands. Mohammed-bin Náṣir replied, "Counsel your men to submit, in order to avoid bloodshed." They, however, would not follow his advice and continued to resist. Now the house of 'Aṣám was on the wall, in which was a small gateway. 'Aṣám admitted Mohammed and his followers by this gate into the town, and two of the inhabitants were slain. They then begged for quarter, which Mohammed granted, but he imprisoned their Sheykhs and carried them off to Yabrín. He left a Wálí in Yanḳal, the inhabitants of which submitted to him. He then marched towards Ṣohár, and sent forward Rabí'áh-bin Ahmed el-Wahashí to advise his cousins to descend from the Fort of Ṣohár. This person, however, instead of doing so, when he came to them, advised them to resist firmly. When Mohammed arrived at Ṣohár, he was encountered by the Benú-Hináh, and a battle was fought in which many of them were slain. Rabí'ah-bin Ahmed was wounded and made prisoner. The Benú-Hináh were defeated and retired into the Fort.

Mohammed's army occupied the principal mosque, and he himself took up his quarters in the house of Bin-Mahmúd. He then spoke to Rabí'ah-bin Aḥmed and said to him, "If you wish to remain with us, you are secure, but if you wish to join your companions in the Fort, I will send you in safety." As he elected to be sent to the Fort, his wish was complied with.

Mohammed-bin Náṣir had placed twelve men mounted on mares as videttes on the eastern side of Ṣohár, as he had heard that Khalf-bin Mubárik had collected the Benú-Hináh from el-Rostáḳ and Masḳaṭ, and had arrived at the Fort of Ṣaham. Meanwhile Mohammed-bin Náṣir had received the submission of all Ṣohár and its inhabitants, and the latter, to whatsoever tribe belonging, had received assurances of security and none were molested. With him were Bedouins of the Benú-Yás, and Benú-Na'ím, and their sub-tribes, and also the "Hadhr."

One night, a field of millet by the wells of the town was destroyed. The owner complained to Mohammed-bin Náṣir, who inquired who had destroyed his field. He replied, "the Benú-Yás and the el-Na'ím, and the Bedouins, and others with you." He said, "How much compensation do you require for your field? take two hundred Mohammadís."[18] On his refusal he said, "Take four hundred." He still refused, and Mohammed-bin Náṣir offered five hundred. But the man said, "I will not be content unless you exact justice of them?" So he summoned the Sheykhs, and on their presenting themselves, ordered them to be bound to stakes. The man would only accept their being whipped as reparation, so he had them all scourged, and would not heed their appeals to him for mercy until justice had been exacted, when he released them from the cords.

Now this was a stratagem of the Benú-Hináh to estrange from him the Bedouins, who then left Mohammed-bin Náṣir, and returned to their own lands. As soon as he heard of their departure, Khalf-bin Mubárik attacked Mohammed-bin Náṣir with his adherents. The attack was made soon after sunrise, and Mohammed-bin Náṣir's followers were taken by surprise. When the latter was informed of the arrival of Khalf-bin Mubárik, he is said to have remarked, "This hour is not to us, and not to them, but as God wills." Thereupon he mounted his mare, and his followers mounted with him, and they encountered Khalf at the gate of the Fort of Ṣohár. In the engagement Khalf-bin Mubárik was killed, and the Benú-Hináh were defeated and pursued by Mohammed-bin Náṣir to the Fort wall. There a bullet fired from the Fort above struck him, and his followers carried him off and he died.[19] Fifteen of his followers also were killed whose names we do not mention. The people of Maṣḳaṭ and el-Rostáḳ retired to the latter place.

For three days after the burial of Mohammed-bin-Náṣir, none but the leaders knew of his death, and the garrison of the Fort of Ṣohár had well nigh surrendered it.

They then returned with the Seyyid Seyf-bin Sulṭán to Nezwá, and he was appointed Imám of the Musalmáns by the Ḳádhí, on Friday after sunset in the early part of Sha'bán, in the year 1140 of the Hijreh [A. D. 1728.].

Notes to Book I.

[1] (p. 112.) The fourth Book of the 'Kesh-ul-Ghummeh.'

[2] (p. 112.) The el-Azd. The tribe el-Azd (the Azdites) derives from Darra el-Azd, who according to the Arabian genealogers was in the tenth line of descent from Ḳahṭán. Ḳahṭán begat Ya'rub, who begat Yashjob, who begat 'Abd-el-Shems, or Sabá, who begat Kahlán, who begat Zeid, who begat Málik, who begat Nabt, who begat el-Ghauth, who begat Darra el-Azd.

[3] (p. 112.) Málik-bin Fahm. The leadership of the Azdites into 'Omán is commonly, as here, ascribed to Málik-bin Fahm, whose pedigree is correctly given to el-Azd. It will thus be seen that he was in the 23rd line of descent from Ḳahṭán. The mention of the younger Darius might lead one to suppose that the immigration of Yemenites to 'Omán under Málik-bin Fahm occurred in the fourth century before Christ. The account also given by the writer of a paper on 'Omán, in the Bombay Government Selections, Vol. XXIV, gives the following account of this event:

"Málik-bin Fahm of the province of Najd, the first native Arabian who entered 'Omán *four centuries before the Christian era*, came by the route of Yemen, &c."

Now it is generally allowed that the period of Ḳahṭán, the ancestor of Málik, may be fixed somewhere about 700 B. C. Assuming this, it is impossible to believe that Málik-bin Fahm lived at the early period mentioned above. Other and more authentic accounts of Málik also prove that his period was much later. The following biographical notice of that leader is extracted from the Index to Dr. Wüstenfeld's Genealogical Tables.

"Málik-bin Fahm was leader of the Azdites when they emigrated on account of the "imminent breaking of the dyke of Máreb. He led them first to 'Omán, then to el-"Bahrain, and finally established himself on the borders of Syria, where he founded the "kingdom, the government of which through the marriage of his daughter Racash passed "to the Lakhmidites." (Reiske, Hist. Arab., p. 8.)

The bursting of the dyke Máreb and consequent emigration of Yemen tribes are events which are supposed to have happened in the 1st century of our era or beginning of the 2nd. By some accounts 'Amr-Muzeiḳia, who was 17th in descent from Ḳahṭán and also an Azdite, was the original leader of the Yemen emigrants, and Málik is said to have arrived in 'Omán later.

At all events the probability is that the entry of Málik-bin Fahm to 'Omán occurred in the early part of the 2nd century after Christ. The part he played in the history of 'Omán is probably exaggerated in native popular traditions. 'Omán had in older times formed a province of the Yemenite kingdom under Ya'rub-bin Ḳahṭán. The period of Persian conquest is, I imagine, unknown.

[4] (p. 112.) Ka'b was ancestor of a branch of the Azdites called el-Azd el-Shanúa, a term signifying the hatred they mutually bore one another.

[5] (p. 112.) Nasr-bin el-Azd. This personage has also been named as the leader of the Azdites from Yemen and founder of the el-Azd of 'Omán.

(*Vide* Rev. C. P. Badger's 'Imáms and Seyyids of 'Omán,' Intro., pp. VI, and VII.)

[6] (p. 112.) Málik-bin Fahm appears to have had two brothers Soleym and 'Amr.

[7] (p. 113.) Kelbeh meaning 'bitch.'

[8] (p. 113.) Of Ma'add or 'Adnán.

All the preserved Arabian genealogies are traced back to one of two ancestors, either to Ḳahṭán or to 'Adnán. Ma'add was the son of 'Adnán, so that the term Ma'addite is

included in that of 'Adnánite. 'Adnán being accounted a descendant of Ishmael, this division of Arabian families is commonly called Ismá'ílite. The prophet Muhammed belonged to this stock, and was of the 22nd generation from 'Adnán, whose period is placed at about 300 B. C.

The great rival division consists of the Arabs of Yemen descended from Ḳahṭán, and these are designated Yemenite or Ḳahṭanite Arabs. Ḳahṭán is often supposed to be identical with Joktan of Genesis, but the period of the latter must have been fully 2000 years B. C., whilst the Arabs calculate this Ḳahtán to have lived 400 years before 'Adnán, or in B. C. 700, leaving a discrepancy of 1300 years. Ḳahṭán is by some Arabic historians asserted to be descended from Ishmael. Arabian historians employ four terms in classifying the various Arab stocks, and are not in accord in the application of those terms. They are—

el-'Arab el-Bádiyeh (البادية)
„ „ el-'Áribeh (العاربة)
„ „ el-Mota'arribeh (المتعربة)
„ „ el-Mosta'ribeh (المستعربة)

The terms 'Áribeh and Mosta'ribeh frequently are taken to indicate the Ḳahṭánite stock; Mosta'ribeh being applied to the Ishmailites. These divisions also are sometimes designated respectively "pure" or "genuine" and "naturalized" Arabs. Abul-Fedá says, historians divide the Arabs into three classes: (1) Bádiyeh, (2) 'Áribeh, and (3) Mosta'ribeh. The first were the lost tribes of Ád, Thamúd, and Jorham the elder, who were destroyed for impiety in the time of Ád. The second are the Arabs of Yemen descended from Ḳahṭán. The third are descendants of Ishmael, son of Abraham.

Another account taken from Ibn-Dihhiyeh divides the surviving Arabs into: 1st, el-'Áribeh, Arabs "par excellence," claiming descent from Iram (Aram of Gen. x. 23), son of Shem. 2nd, el-Mota'arribeh, naturalized and not Arabs, descended from Ḳahṭán. 3rd, el-Mosta'ribeh, still less pure Arabs, descendants of Ishmael. I extract yet another account from a note in Chenery's translation of Harírí. "Shem was the primate of the "earth after his father, and according to his father's blessing became the ancestor of the "prophets, all of whom, whether Arabs or foreigners, are of the posterity of Shem. He "went as far as Yemen and founded San'á, and settled in the middle region of the earth "from Yemen to esh-Shám, possessing the Holy Place. From him were descended Ád "and Thamúd and Tasm and Jedís and el-'Amálík, and the subjects of Ya'rob and "Jorhom the elder, who were called العرب العاربة el-'Arab el-'Áribeh, because they were "created speaking Arabic; also the descendants of Ismáíl, called العرب المتعربة, el-"'Arab el-Mota'arribeh, because they acquired the Arabic tongue by settling among the "former; also العرب المستعربة, el-'Arab el-Mosta'ribeh, who are defined as specially the "descendants of 'Adnán." [Assemblies of Harírí, Chenery, Vol. I, p. 466.]

[9] (p. 113.) Wádí Rekot?

[10] (p. 113.) Ten sons of Málik are mentioned, Honáa being youngest. He appears to have had a grandson named Ferhúd. The name Feráhíd does not appear in Wüstenfeld's collection of pedigrees.

[11] (p. 113.) El-Shiḥr. The Esher of Marco Polo, who wrote "concerning the city of Esher, Esher is a great city * * 400 miles distant from the Port of Aden. It has a king, who is subject to the Soldan of Aden. He has a number of towns and villages under him and administers his territory well and justly. The people are Saracens. The place has a very good haven, wherefore many ships from India come thither with various cargoes; and they export many good chargers thence to India. A great deal of white

incense grows in this country and brings in a great revenue to the Prince, &c. &c." (Chap. XXXVII., Book III., Vol. 2, Colonel Yule's Edition of Marco Polo).

The following information is extracted from Colonel Yule's notes:

Shihr, or Shehr, with the article Es-Shehr, still exists on the Arabian Coast as a town and district about 330 miles east of Aden. * * The hills of the Sheor and Dhafár districts were the great source of produce of the Arabian frankincense. (*Vide* pp. 378, 379, Yule's Marco Polo.)

In modern times the port of Makalla appears to have superseded el-Shiḥr, and the sources of wealth of that port of Arabia have become exhausted.

[12] (p. 113.) Mahrah-bin Heidán, from whom the district Mahra was named. The full pedigree is not given, Mahrah being of the 15th generation from Ḳahṭán. The following notices are translated from Dr. Wüstenfeld's Register. "Some say Mahra-bin Heidán "belongs to the branch Ma'add-bin 'Adnán, others to Codhá'a. The family, after "separation, settled in the coast line of el-Shihr between Yemen and 'Omán, and retained "the old Himyaric language. The celebrated Mahari camels derive their name from Mahra."

The district of Mahra was at one period in a measure under the power of the Imáms of 'Omán. The language is said to be still peculiar to its inhabitants. It is to be remarked that the settlement of Mahra-bin Heidán at el-Shiḥr was probably earlier than the period of Málik-bin Fahm.

[13] (p. 113.) The king Dárá, son of Dárá. An obvious anachronism. The period of younger Darius was about 337 B. C. As from about 300 B. C. to 220 A. D. Persia was under the kings of the Ashkánian dynasty, or the Arsacides, one of that line must have been in power at the time of Málik-bin Fahm.

[14] (p. 113.) Marzabán. A Persian word meaning a governor of an outlying province, or "Margrave."

[15] (p. 113.) Ḳalhát. This town was visited by Marco Polo towards the end of the 13th century, who wrote concerning it—"Calatu is a great city, within a gulf which bears "the name of the Gulf of Calatu. It is a noble city * * The people are Saracens, and "are subject to Hormos. And whenever the Melik of Hormos is at war with some prince "more potent than himself, he betakes himself to this city of Calatu, because it is very "strong, both from its position and its fortifications. * * * They also export many "good Arab horses from this to India. For as I have told you before the number of "horses exported from this and the other cities to India is something astonishing." * * * * "The city of Ḳalhát, says Ibn Baṭúṭá, stands on the sea-shore. It has fine "bazars and one of the most beautiful mosques that you could see any where, the walls of "which are covered with enamelled tiles of Káshán. * * * Most of them (inhabi-"tants) are Schismatics, but they cannot openly practise their tenets, for they are under "the rule of Sultan Tehemten, Malik of Hormuz, who is orthodox. * * There was "still a horse trade at Kalhat in 1517." * * (Travels of Marco Polo, Col. Yule's edition, pp. 381, 282, Vol. 2.)

Ibn Baṭúṭá wrote in 1328. In modern times, Ḳalhát is an insignificant place, but extensive ruins are traced. The Schismatics alluded to by Ibn Baṭúṭá were doubtless Ibádhís, then the prevailing sect in 'Omán. The author of the "Keshf ul-Ghummeh" mentions the rule of Malik of Hormuz as will be seen. In modern times scarcely any horses are produced in 'Omán, except for the Sulṭán's private stable.

[16] (p. 113.) El-Jowf. A term which was applied to the central valley region from 'Omán proper to el-Dháhireh. Mr. Badger identifies el-Jow and el-Jowf, but this is erroneous.

17 (p. 114.) The account of the battle has been abridged in translating.

18 (p. 115.) Aqueducts. In the Arabic "felej." They are subterraneous artificial channels, similar in all respects to the "Kanáts" or "Kárízes" of Persia and neighbouring countries. Probably the system was introduced into 'Omán by Persians.

19 (p. 116.) The families here enumerated are all Azdite, and the pedigrees are correctly given. The mention of 'Armán-bin 'Amr-bin el-Azd amongst the contemporaries of Málik-bin Fahm must be an anachronism, the former personage having been in the 10th line of descent only from Ḳahṭán. The Yahmadí family of 'Omán derive, I take it, from el-Yahmad-bin Hommá. It is more than doubtful whether so many famous Yemenite families settled in 'Omán, as stated by the author.

20 (p. 116.) The el-Azd named it 'Omán, &c. The name is also by some asserted to be derived from a son of Ḳahṭán, named 'Omán. According to this version, when Ya'rub-bin Ḳahṭán established the Yemenite Empire, he conferred the government of two Provinces on his brothers 'Omán and Hadhramowt, and the Provinces were thereafter so named. These two personages are, however, usually thought mythical.

The country might have been named by Arabians from the root عمن 'Omán, which has a sense of tarrying or abiding.

21 (p. 116.) The Persians called it 'Mazún.' This statement is borne out by other authorities.

22 (p. 116.) Sámah-bin Loweij.

This name may be noted as the first mentioned of the Ishmailite branch. Sámah belonged to the famous Ḳoreysh family and was of the 14th generation from 'Adnán. The following notice of him is translated from Dr. Wüstenfeld's Index. "Sáma-bin Loweij "on account of a quarrel with his brother 'Amir abandoned the 'Heimath' and journeyed "towards 'Omán. In Jowf el-Hamila his camel fell over an 'Arfaja tree (a thorny shrub), "in which a snake had concealed itself. The snake struck at his leg and bit him so that "he died. His descendants who were called after his mother "Benú-Nájiya," dwelt in "'Omán in the hamlet of el-Towám." A portion ultimately settled themselves in Basra, where the Quarter Sáma is named after him.

23 (p. 116.) El-Jow is the name of the district immediately surrounding Bereymí.

24 (p. 116.) As Asd-bin 'Imrán was Azdite, this was an intermarriage between the great rival stocks.

25 (p. 116.) El-Sirr. This name has been variously applied. Sometimes it has designated the Western coastline of 'Omán. As here used, its site was apparently somewhere between Bereymí and the modern Abú-Dhebí.

26 (p. 116.) Benú-Rááheh. There is a strong clan so called now in 'Omán.

27 (p. 116.) Nizár. From Nizár-bin Ma'add-bin 'Adnán.

28 (p. 116.) Málik-bin Zoheir. This person was not of the Azdite stock, but was of the tribe el-Tanúkh whom he led from Nejd to el-Hirá in 'Iráḳ.

29 (p 117) "The historian Hamza relates that Málik-bin Fahm was accidentally slain "by his son Suleimah, who thereupon fled into 'Omán, where he left a large progeny, "which existed a long time after the rise of Islám." Imáms and Seyyids of 'Omán, Intro., p. VII.

Also "Salímah-bin Málik shot his father by accident in the darkness, who had himself instructed him in the use of the bow." *Reiske, Hist. Arab., p.* 12. [Register zu den genealogischen Tabellen, Dr. Wüstenfeld, p. 408].

The Arabic couplet is a favorite quotation in allusion to ingratitude—

"I taught him archery day by day: when his arm grew strong, he shot me."

30 (p. 117.) His adventures are omitted in translation.

[31] (p. 118.) El-Mustatir meaning "the wary." The descendants of this el-Julandá, who was an Azdite, appear to have assumed the name Benú-Julandá. It is said that each one who became king in 'Omán, took the name of Julandá.

[*Vide* Imáms and Seyyids of 'Omán, p. 7].

[32] (p. 118.) The commencement of the Sassanian dynasty was A. D. 220; it terminated with the Mohammedan conquest.

[33] (p. 118). This Book serves as an introduction to the subsequent narrative. The author must have been at considerable pains to collect his materials judging from the paucity of books now in 'Omán. The more ancient Arab historical works are chiefly accounts of famous tribes or families, and the genealogies of important personages are very minutely traced. The science of genealogy was highly elaborate. There were ten recognized gradations of communities, from the "people" as a whole down to the "family" of less than ten persons. The terms used to describe those various classes are analogous to our words, "race," "nation," "tribe," "clan," "kin," "family." But the shades of gradation are more minutely given in Arabic than English can describe. The term "Ḳabíleh," answering to our "tribe" or "clan" was fourth in the Arab classification. In modern times Arabs have ceased to preserve their pedigrees, and in 'Omán the people know little of their origin.

Summarized, the events related in this book are as follows. Yemenite Arabs chiefly Azdite arrive in 'Omán and drive out the Persians, who were previously in possession of the whole province. Thenceforward, for a considerable time, the Azdites were sole masters and their chiefs ruled supreme. Later, however, the Persians regained a footing, and at the time of the introduction of Mohammedanism, a Persian deputy was residing in 'Omán, and was subsequently expelled by the Azdite tribes under the descendants of el-Julandá.

'Omán and Bahrain were included in the conquests of the Persian Monarch Khosrú Parwíz at the end of the 6th century.

Notes to Book II.

[1] (p. 118.) Book or Chapter 33 of the "Keshf ul-Ghummeh."

[2] (p. 118.) The subjugation of 'Omán by the Persians in the time of the Julandáites appears to have been only temporary or partial, as at the commencement of the Mohammedan Era the Julandáites 'Abd and Jeifar were undoubtedly in power. When the remnant of the Persians were expelled, 'Omán did not, however, become an independent kingdom. Its princes embraced the religion of Islám in the time of Mohammed, whose paramount authority they acknowledged. Thenceforward until about 751 A. D., 'Omán was nominally under the Khalífehs and immediately controlled by the governors of 'Iráḳ.

Before the success of Mohammed in 'Omán it is mentioned that one Abú-Basír-bin Asíd or 'Otbá had retired to the coast of 'Omán [síf el-bahr], and collected round him there those who in Mekka had embraced the new Faith, but they were unable to maintain themselves, and their numbers gradually decreased to 62 or 70. [Nawáwí.]

[3] (p. 118.) Dabá. There is a small town now named Dibbá, north of Sohár. There appears to have been also a place named Dabá between Bahrain and 'Omán, where el-Atíḳ-bin el-Asd settled after the emigration from Máreb. Hence the family called Azd-Dabá. [Wüstenfeld, Index.]

[4] (p. 119.) Abú-Bekr succeeded Mohammed, and was Khalífeh from A. D. 632 to 634. On his accession rebellions occurred in several provinces, 'Omán amongst the number. An expedition was despatched to 'Omán and Yemen under 'Ikrimah-bin Abú-Jahl, who

assisted by the Julandáites 'Abd and Jeifar and other Azdites, succeeded in quelling the rebellion. In a great battle fought at Dabá (*vide* note 3), ten thousand rebels fell, and many were carried into captivity. It is stated that 'Othmán-bin Abul-Así was appointed governor of 'Omán and el-Bahrain by Abá-Bekr, and that he defeated and slew a Persian commander named Zohrák at Towwaj. In Mr. Badger's Introduction to the 'Imáms and Sayyids of 'Omán,' when these events are summarized, it is stated that 'Othmán was appointed by 'Omar (the successor of Abú-Bekr). For incidental notices of the history of 'Omán at this period many Arabian authors may be consulted, amongst them Nawáwí, Ibn-Sa'd, Ibn-Koteiba, Beládzorí, Abú-Ja'far's Táríkh-el Mulúk.

[5] (p. 119.) The Nizáriyeh as opposed to the Yemenites. For explanation of the term *vide* Note[57] to Book I.

[6] (p. 120.) *The Desert Country:* It may also be read "within three days' march" of "el-Balka'ah." The latter word, however, means waste, uninhabited land. Probably the country west of Bereymí is meant.

[7] (p. 120.) Maskat. In this part of the "Keshf ul-Ghummeh" the name is spelt مسكو, whilst in later books it is spelt مسكد (maskad).

[8] (p. 120.) Julfár. The Persian name for the town on the site of the modern Rás-el-Kheimah.

[9] (p. 120.) Zenj. The inhabitants of the East African Coast. Mr. Badger thinks this the most reliable record we possess of the first emigration of Arabs of 'Omán to the east coast of Africa.

[10] (p. 121.) This appointment of a native of 'Omán to the governorship appears to have led to the assertion of independence soon after.

[11] (p. 121) The Ibádhiyeh. This is the first mention of the remarkable Ibádhí sect, which has from this time forward exercised so powerful an influence in 'Omán, and which appears already at this early period to have become predominant there. The sect takes its name from 'Abdullah-bin Ibádh, who flourished according to the author of the "Keshf-ul-Ghummeh" about A. D. 685-705, but, according to the other works quoted by Badger, A D. 744-749. The sect is undoubtedly an off-shoot of the Khárijite schism. In the year 657 A. D., a large number of the Caliph 'Alí's followers revolted from him, and these received the appellation of "Khawárij," *i. e.* schismatics, or heretics, who went forth from the true faith. In the following year, the Khárijites to the number of 4000 were attacked and cut to pieces by 'Alí. Nine only escaped, of whom two reached 'Omán, where they became apparently successful propagandists of the Khárijite doctrines, the most important perhaps of which consisted in the positive rejection of the Caliphs or Imáms 'Othmán and 'Alí, and the assertion of the right to elect and depose their Imáms. In this and other fundamental points 'Abdullah-bin Ibádh simply followed the Khárijites. It seems probable that the people of 'Omán were imbued with these views before the time of 'Abdullah-bin Ibádh, and were thus prepared beforehand to accept his teaching. In what manner the latter was propagated does not appear. The Ibádhí doctrine as to the Imáms may be roughly contrasted with that of the Sunnites and Shí'ahs as follows:

1. *Sunnites* accept the four successors of the prophet as true Khalífehs, or Imáms, and the generally acknowledged representatives known to the present day, when they recognize the Sultán of Turkey as head of the orthodox.

2. *Shí'ahs* absolutely reject all claims to the Imámate other than those of 'Alí and his descendants. At the present time they acknowledge no visible Imám.

3. *Ibádhís* reject 'Othmán and 'Alí and curse them as infidels. They assert the right of true believing Muslims (themselves that is) to elect their Imáms, and to depose them for transgressions. The persons successively elected to their Imáms by the Ibádhís

have also usually been temporal rulers in 'Omán. They were styled "Imám of the Musalmáns," not "Imám of 'Omán." It is to be noted that it is not considered indispensable by the Ibádhís to have an Imám at all. An account of the sect is given by Mr. Badger in his work "Imáms and Seyyids of 'Omán." The "Keshf ul-Ghummeh" also supplies some information about it, which has been submitted to Government in a previous paper, regarding which *vide* Proceedings, Asiatic Society of Bengal, for January, 1873, pp. 2 to 10. In the same work may be found some of the correspondence of 'Abdul-lah-bin Ibádh.

[12] (p. 121.) The first of the Imáms probably.

[13] (p. 121.) Musalmáns, *i. e.* Ibádhís.

[14] (p. 122.) You are my Imám, go before (amám) me.

[15] (p. 123.) For meaning of el-Shárí, *see* Note 13 to Book III.

[16] (p. 123.) Wádí Hattá is a valley north-west of Sohár.

[17] (p. 124.) Bowárih. According to Mr. Badger, "Bowárij," or war-vessels.

[18] (p. 124.) Eastern districts, or el-Sharḳíyeh. Similarly, the western part of 'Omán is occasionally distinguished as el-Gharbíyeh," or el-Gharb." The divisions of the whole Province commonly used by the people of 'Omán are, 1, "*'Omán proper*," limited to the central region. 2, "*el-Sharḳíyeh*," eastern districts, including *Ja'lán*. 3, *el-Báṭineh*, the plain situated between the mountains and the sea north of Maskat. 4, *El-Dháhireh* including el-Jow, the tract beyond the hills extending from 'Omán to el-Bereymí. 5, *el-Shemál*, the north and west. 6, lastly there are the hill tracts and Wádís not comprised in any of the preceding divisions. The former between el-Báṭineh and el-Dháhireh are called in plural el-hujúr, sing. hejer-el-Báṭineh, hejer-el-Dháhireh. Each Wádí has its distinctive name, sometimes taken from the tribe inhabiting it.

[19] (p. 125.) Accordingly his reign commenced A. D. 808.

[20] (p. 126.) He retained the spiritual office whilst deprived of the temporal power.

[21] (p. 126.) Mahrah appears from this to have acknowledged the Imám Muhennà, but the authority of the 'Omán rulers over that district must have been very precarious.

[22] (p. 128.) Farḳ is a village a few miles south of Nezwá.

Notes to Book III.

[1] (p. 129.) Izkí, or Azká, now vulgarly named Zikkí.

[2] (p. 129.) El-Nizár. At Zikkí there are two resident families or tribes representing the great rival branches. These families are still called Yemen and Nizár. The attack here described would at the present day be called an attack by the Ghafirís upon the Hinawís.

[3] (p. 129.) El-Madharíyeh, a term synonymous with Nizárîyeh, being derived from Madhar-bin Nizár-bin Ma'ád-bin 'Adnán.

[4] (p. 129.) El-Haddán. That is in the mountains between el-Báṭineh and el-Dháhireh.

[5] (p. 129) El-Jow. The district about the modern el-Bereymí.

[6] (p. 129.) Sohár was and still is one of the towns where the Imám could perform Friday's divine service.

[7] (p. 130.) Benú-Hináh. The name of this clan became celebrated in 'Omán, and gave its name to the whole Yemenite party in later times. Badger refers the origin of this tribe to Hana or Hina-bin 'Amr-bin el-Ghauth-bin Ṭai-bin 'Odád, a descendant of Kahlán. According to this genealogy, the Benú Hináh, though Ḳahṭánite and Yemenite, were not of the Azdite stock. I am inclined to think the forefather of the Hinái tribe of

'Omán is to be sought amongst the descendants of el-Azd. Amongst the immediate progeny of el-Azd, we find the name el-Hinw, and in the next generation el-Haun. Again, one of the sons of Málik-bin Fahm was named Honáa, or Honát, or perhaps Hináh. There is on other grounds much reason to believe that the Benú-Hináh are an Azdite clan.

[8] (p. 130.) Mohammed-bin Núr. This name is still a by-word in 'Omán. From the detestation in which this person was held, he was dubbed Mohammed-bin "Búr," instead of "Núr," the former word bearing an evil signification.

[9] (p. 130.) The Caliph el-Mo'tadhid-billah reigned from A. D. 892 to 902.

[10] (p. 130.) Himyarite, another term for the Yemenites, &c.

[11] (p. 131.) Ḳorán, Chap. XIII.

[12] (p. 132.) The Mihráb is the place in a mosque where the priest prays with his face towards Mecca.

[13] (p. 132.) As a "Shárí" Imám. This means that the Imám had vowed on assuming office to sacrifice life rather than yield or fly in battle with the enemies of the Faith. Those not so bound were termed Dafi'í Imáms. *Vide* note 28 to Book IV.

[14] (p. 133.) As a Dáfi'í. See preceding note.

[15] (p. 133.) Sulṭán of Baghdád, *i. e.* the Caliph. The Ibádhís would grudge him the title of Caliph.

[16] (p. 133.) The Ḳarámiṭah, or Karmatians, a sect very inimical to the Mohammedans. They turned the precepts of the Ḳorán into allegory. They caused great disturbance, and under Abú-Dháhir took Mecca (*vide* Sale's Koran, p. 130).

[17] (p. 133.) Abú Sa'íd. De Sacy styles him "Abou-Saïd Hasan, fils de Behram, surnommé Djénabi, parce qu'il était de Djenaba." Abulfeda says, Junnábah (or, as Ibn Khallikán writes it, Jannábah), is a small town of el-Bahrein, from whence sprang Abú-Sa'íd el-Junnáby, the libertine, the Kármuty, who attacked the Hijj and ḳilled many of them. Imáms and Seyyids of 'Omán, p. 28, note 1.

[18] (p. 133.) Probably the creditors would object to his devoting himself to death until their claims were satisfied.

Notes to Book IV.

[1] (p. 134.) Mr. Badger's author, Salíl-bin Raziḳ, has the following statement here—"*Ibn Ḳaisar says*: I have not been able to find the date when allegiance was given to him [Sa'íd-bin 'Abdullah], nor how long he retained the Imámate." I have not been able to discover who Ibn Ḳaisar is, but Salíl-bin Raziḳ's quotations appear to be from the "Keshf ul-Ghummeh." I once questioned Salíl-bin Raziḳ concerning the authorship of the "Keshful-Ghummeh," but he was then very feeble from age, and could not inform me.

[2] (p. 134.) *Vide* note 13, Book III. Mr. Badger has in his work—"This appointment also was made in spite of much opposition."

[3] (p. 134.) That is, the Ibadhí faith.

[4] (p. 136.) I am sorry I cannot make the preceding account more clear, the original is very obscure.

[5] (p. 136.) Saluted him as Imám. That is, recognized the fact of his election without positively swearing fealty.

[6] (p. 136.) Sadaḳat, *voluntary* poor-rate.

[7] (p. 137.) As Sulṭán. The term means probably as temporal ruler, and was not used as a title. That of Imám would include the other.

[8] (p. 137.) What follows is inconsistent with the previous statements, but such inconsistencies abound in most Arabic writings.

[9] (p. 137.) The quotation is from a religious work. It is one of the verses alleged by the Shí'ahs to have been abstracted from the original Ḳorán and suppressed. They take it to point to the oppressors of 'Alí and his descendants.

[10] (p. 138.) Kadam. Between Bahlá and el-Homrá.

[11] (p. 138.) Wádí el-Nakhr. About 2 hours west of el-Homrá.

[12] (p. 138.) Taḳíyeh.

[13] (p 139.) The history of this period is confused and defective, probably because the standard Arabian works contain no accounts of this portion of 'Omán history. Henceforward the Caliphs seem to have lost their hold on 'Omán.

[14] (p. 140.) The dates are confused and unreliable, and several of the Imáms are, as will be observed, introduced out of their chronological order.

[15] (p. 140.) The year is not stated.

[16] (p. 140.) That is, from Mohammed-bin Khanbash to Málik-bin el-Hawárí, from A. D. 1162 to A. D. 1406.

[17] (p. 140.) The government of at least a portion of 'Omán had fallen after the time of Mohammed-bin Khanbash into the hands of the Benú-Nebhán, who were descended from another stock than the Azdites, though also Ḳahṭanite. Their progenitor appears to have been Nebhán-bin 'Amr-bin el-Ghauth-bin Ṭaï. The Princes of this family were never elected to the religious office of Imám, but were called "Máliks," or Lords. They were strongest in el-Dháhireh, and probably none of them reigned supreme over entire 'Omán. Their power lasted more or less to A. D. 1617, or for nearly 500 years. At the present day, no clan of 'Omán is poorer or more despised than the Nebáheneh.

[18] (p. 140.) At that period Abáká Khán, son of Hulágú Khán, was monarch of Persia.

[19] (p. 140.) Ḳalhát, *vide* note 5, Book I.

[20] (p. 141.) Dhafár. Marco Polo says of Dhafár—"Dufar is a great and noble and "fine city. * * * The people are Saracens and have a Count for their chief who is "subject to the Soldan of Aden * * * Much white incense is produced here, and I "will tell you how it grows. The trees are like small fir trees; these are notched with "a knife in several places, and from these notches the incense is exuded. Sometimes "also it flows from the tree without any notch; this is by reason of the great heat of the "sun there. * * * This Dhafár is supposed to be the Sephar of Genesis, x. 30." [Colonel Yule's Marco Polo, pp. 379-80, Vol. II.]

[21] (p. 141.) Dínár. A gold coin weighing 71¼ barley-corns [Lane].

[22] (p. 141.) Owlád el-Reís, or the Ríáyeseh, a tribe inhabiting a district west of Sohár.

[23] (p. 141.) The Málik or Lord.

[24] (p. 141.) Seyyid This term, here occurring for the first time, means Prince or Lord or Master or Noble. In 'Omán it is prefixed to noble names as a "handle." At the present time, the Ruler of 'Omán is styled the Seyyid "par excellence."

[25] (p. 141.) See note 17.

[26] (p. 141.) According to Badger, an Azdite.

[27] (p. 141.) According to Badger, also an Azdite of the el-Yahmad.

[28] (p. 141.) The term employed is el-Shurát, which was applied to the Khárijite schismatics, because they said, "We have sold ourselves in obedience to God for Paradise when we separated ourselves from the erring Imáms." [Lane's Lex., Art. شرى]. The singular "Shárí," we have seen applied in a peculiar sense to the Imáms, *vide* note 13 to Book III.

[29] (p. 142.) The priest el-Khaleylí, the Imám 'Azzán's Samuel in later days, when wishing to perpetrate a similar spoliation, appealed to this period of 'Omán history as precedent and justification.

[20] (p. 142.) Ḳorán, Chap. II.

[21] (p. 143.) At Nezwá.

[22] (p. 143.) It must have been during the reign of Mohammed-bin Ismá'íl that the Portuguese under Alfonso di Albuquerque captured the sea-port towns of 'Omán. Maskat was taken in A.D. 1508. There is no mention of the advent of the Portuguese in "Keshf ul-Ghummeh"

[23] (p. 143.) "Zekát" and "Sadaḳat" are both terms denoting religious alms. The former however is obligatory.

[24] (p. 144.) Jezíyah, or capitation tax.

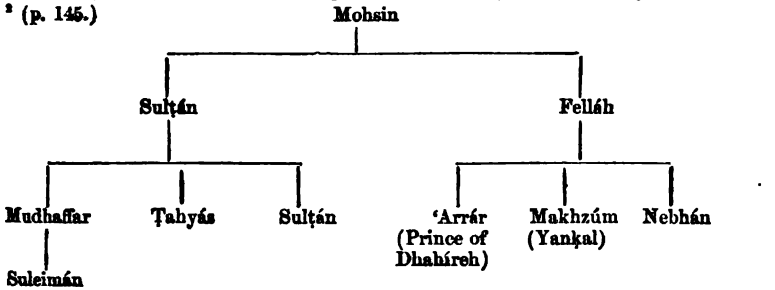
[25] (p. 144.) The sentiments are in accordance with modern enlightenment. In the East, under native rulers, such principles are seldom acted on.

[26] (p. 144.) Khuráj, or land tax.

Notes to Book V.

[1] (p. 144.) Maḳínát. So in the original, but generally spelt Maḳaníyát.

[2] (p. 145.)



[3] (p. 146) Or Bilád-Seyt.

[4] (p. 146.) The narrative is very involved.

[5] (p. 146.) Amír. The term was employed in 'Omán in some cases to denote the chief of a powerful clan.

[6] (p. 148.) The clans of 'Omán, when "on the war path," march with drums beating and banners flying.

[7] (p. 149.) The original is very obscure.

[8] (p. 151.) Doubtless a Portuguese vessel. The author seems to avoid mention of the conquests of the Portuguese in 'Omán as much as possible. It would appear, however, that at this period the Portuguese had not possession of Sohár.

Notes to Book VI.

[1] (p. 154.) "The true sect," *i. e.* Ibádhí.

[2] (p. 154.) Any one who has had much to do with 'Omán politics must allow that there are several true points in this description of the native character.

[3] (p. 155.) "Bedú" and "Hadhr." The Bedú, or Bedouins, are the pastoral Arabs inhabiting the great plains, and partly nomadic. The Hadhr are the dwellers in towns and villages and cultivated lands, the fixed, working, or agricultural population. The Bedú exercise much influence in 'Omán.

[4] (p. 155.) Násir-bin Murshid appears to have been the first Imám of the Ya'rabí family.

[5] (p. 155.) Now called Al-bú-Sa'íd. The family of the present Seyyids.

[6] (p. 156.) The Benú-Riyám inhabit the Green Mountains, "Jebel el-Akhdhar." Mr. Badger considers them of Mahrah origin. At present they belong to the Ghafírí division.

[7] (p. 157.) Mr. Badger says—"The Benú Hilál I take to be descendants of Hilál, one of the four sons of Ámir-bin Sa'asa'ah (born about A. D. 381), a descendant of Ma'add and Adnán, &c." (Imáms and Seyyids of 'Omán.)

[8] (p. 157.) 'Ibrí or 'Obrí. A town in el-Dháhireh, which was visited by Wellsted, and where he had a bad reception. There is also a tribe or clan, named el-'Ibríín. Whether the clan takes its name from the place or *vice versâ*, I cannot say. The root of the name is the same as that of Heber, from which "Hebrew." The signification is "on the other side." The Latin form of the same word is Iber (Iberes, Iberian), equivalent to trans-ultra, &c. (Types of Mankind.)

[9] (p. 159.) The Portuguese.

[10] (p. 160.) El-Rúleh. The banyan tree, *Ficus Indica.*

[11] (p. 160.) Shí'ahs. Probably Persians.

[12] (p. 160.) El-Sír to be distinguished from el-Sirr, was another name for Julfár, now Rás el-Kheimah.

[13] (p. 161.) El-Efrenj, or Franks, meaning Portuguese, no doubt.

[14] (p. 161.) The narrative here suddenly terminates, but we may assume the attack on Sohár failed.

[15] (p. 161.) About 20 miles from Maskat, noted for its hot mineral springs.

[16] (p. 162.) El-Ahsá. A district of Nejd, called vulgarly Lahsá.

[17] (p. 162.) Benú-Lám. The "Benú-Lám" are a branch of the great Ṭai tribe, and therefore of Ḳahṭánic origin through Kahlán; for Lám, born about A. D. 470, was the descendant of Ṭai, the descendant of 'Odád, the descendant of Kahlán (Badger's Seyyids of 'Omán, p. 67 note). Until subjugated by the Wahhábís, the Benú-Khálid were the most prominent tribe on the Arabian shore of the Persian Gulf. (Ibid.)

[18] (p. 163.) The term used is el-Shurát, *vide* note 28, Book IV.

[19] (p. 164.) In Badger's work, the date is A. H. 1059, or A. D. 1649.

[20] (p. 164.) No details of the capture of Maskat are given, but Mr. Badger's author has a long and detailed account of the matter, derived apparently from the popular legends. One story current is that the Arabs entered Maskat in the guise of peaceful peasants, hiding their arms in bundles of fire wood, and that they took the opportunity of the Portuguese garrison being assembled without arms at chapel to attack and massacre them. The Portuguese residence, or Factory home, is called by the Arabs el-Jereza (جريزة, for Igrezia, or church). Mr. Badger has mistaken the word for Jezírah or "Island," which it closely resembles in the Arabic.

Sulṭán-bin Seyf commenced to reign A. D. 1640, and died on 4th October, 1680.

The date of the Portuguese expulsion is stated by European authorities 1650 or 1658. The present work does not enable us to fix it more accurately.

"In anno 1715, the Arabian fleet [meaning the Imam's] consisted of one ship of "74 guns, two of 60, one of 50, and 18 small ships from 32 to 12 guns each, and some "Trankies, or rowing vessels, from 4 to 8 guns each, with which sea-forces they keep all "the sea coasts from Cape Comorin to the Red Sea. They have often made "descents on the Portuguese Colonies on the coast of India, destroying their villages and "farms, but spare the churches for better reasons than we can give for plundering them.

"They kill none in cold blood, but use their captives courteously. In anno 1695, they "quarrelled with the Carnatick Rajah, a potent Princely lord. Yet they came with their "fleet and plundered and burned the towns of Barsalore and Mangalore, two of the best "and richest towns on that Coast."

[The above is from Captain Alexander Hamilton's 'New Account of the East Indies.' He travelled from 1688 to 1723, and is therefore a valuable authority for this period.].

[21] (p. 165.) Jezíret el-Khadhrá, or Pemba.

Notes to Book VII.

[1] (p. 168.) Body of horsemen. The term used is 'saríyeh,' which means a party of from five to three hundred or four hundred.

[2] (p. 168.) Sáhib el-'Anbúr. A title or a nick-name. 'Anbúr in 'Omán sometimes means a purse.

[3] (p. 169.) Ḳorán XXIX, 1, Sale's translation,

[4] (p. 169.) Benú-Ghâfir. The origin of the appellation of this tribe seems unknown, but they are undoubtedly Ishmaelite or 'Adnánite, and were therefore naturally opposed to the Yemenites or Ḳahṭanites. As will be seen further on, under their able and brave chief, Mohammed-bin Náṣir, this clan became renowned and powerful in 'Omán. This chief headed the faction against their rivals the Yemenites, who also found a skilful and courageous leader in Khalf-bin Mubárik, the Dwarf, chief of the Benú-Hináh. This civil war was one of the fiercest recorded in the annals of 'Omán, a great number of the clans ranging themselves under their respective leaders, declaring either for the "Hináí" or "Ghâfirí." Those faction terms have survived to the present day, and almost entirely supersede the older classifications, the rival factions being now termed el-Hináwíyeh and el-Ghâfiríyeh. This is the explanation of the undue pre-eminence assigned by European writers on 'Omán to these two tribes, whose importance was accidental and temporary. For a time the Ghâfirís gained the day, and their chief became Imám, but the Hináwís soon regained the ascendancy. At present, the power of the two sections is tolerably evenly balanced, the Ghâfirís preponderating in the West and their rivals in the East. It is to be noticed that at the present day the fact of a clan styling itself of the Hináwí or the Ghâfirí faction does not necessarily prove its origin to be Ḳahṭánite, or Ishmaelite; for several Yemen tribes have ranged themselves with the Nejdites and *vice versâ*. This fact occasions additional difficulty in tracing tribal genealogies.

[5] (p. 169.) See Note 1.

[6] (p. 170.) The names Yemen and Nizár here apply to rival *families* so called, not to factions.

[7] (p. 172.) Ḳorán, XIII, 12.

[8] (p. 172.) Birkeh. This name is sometimes written so and sometimes Barká. In the Ḳámús it appears as "Birket el-Rameys."

[9] (p. 172.) "*Did not understand Arabic.*" Probably these were some of the people inhabiting the Ruús el-Jebel from Cape Mussendom. Southward the inhabitants of that locality differ in appearance from the other Arabs and speak a different dialect. Some, from their reddish skins and light eyes, have conceived them to have an admixture of European blood. On examination their language will probably be found to be a Himyarite dialect. They may be descendants of a Himyarite people who inhabited 'Omán before the inflow of Yemenites and others. They are named el-Sheḥúḥ or el-Shiḥiyín.

Cape Mussendom has been identified with "the promontory of the Asabi" of Ptolemy (by Forster), and the Asabi or Sabi with the Seba or Sebaim of Scripture. In accordance with this theory, this part of 'Omán was originally the seat of Cushite colonies,

in witness of which are adduced the names "Cúscan" (Cushan of Hebrew writers), [probably meaning Khasam] and a littoral termed by Pliny "the shore of Ham," "Litus Hammeum," now Maham, (?), adjacent to which is a "Wádí Ham," "Valley of Ham" (Types of Mankind). Again: "Ramss, an Arab port, just inside the Persian Gulf, perfectly answers to the sites of Raamah, catalogued among Kushite personifications in xth Genesis (*ibid.*)."

[10] (p. 173.) About six miles from Barká.

[11] (p. 174) The prisoners were sometimes placed in exposed situations during a siege or battle to slacken the enemies' fire.

[12] (p. 176.) Ál-Wahíbeh. A numerous, powerful, and warlike Bedouin clan of Sharḳíyeh.

[13] (p. 176.) "*The Benú-Menáh and their allies*" would be more accurate, but at this period the term Hináí began to be used in its modern extended sense.

[14] (p. 177.) The el-Harth is the richest of the Hináwí tribes of the eastern districts. Many of this family inhabit Zanzibar.

[15] (p. 177.) El-Na'ím. The dominant tribe of el-Jow and Bereymí.

[16] (p. 179.) Maghribí meaning Nejdean.

[17] (p. 179.) Tenúf. A town of the Green Mountain.

[18] (p. 183.) A Mohammedí is about three pence.

[19] (p. 183.) The election of Mohammed-bin Násir to be Imám was evidently a forced measure and adopted only because of the great power he wielded as a warrior and ruler. His military genius seems to have surpassed that of any previous Imám or governor of 'Omán, and he had well nigh become by sheer talent and energy supreme over all 'Omán.

The restless energy of this Prince was imitated, for a time with much success, by the late 'Azzán bin-Ḳais.

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On the Bárah Bhúyas of Eastern Bengal.—*By* Dr. James Wise, *Dháká.*

[With a Plate.]

The history of Bengal furnishes little information regarding the seventeen years that elapsed from the death of Dáúd Sháh in 1576 to the final conquests of Rájá Mán Singh in 1593. The great military revolt, and the stubborn resistance of the Afgháns, sadly tried the stability of the newly established empire, and it was only after repeated defeats that the power of the malcontents was broken, and the villages of Bengal were relieved from the requisitions of the rival armies. In eastern and southern Bengal the contest was most prolonged, and amid the swamps and rivers the Mughul troops were harassed by an enemy who selected his own time and place for fighting, but who generally retreated carrying with him all the boats on the rivers. But besides these advantages the rebels were assisted by many of the great landholders of the country and by their troops, who were inured to the country and accustomed to overcome the physical difficulties which threw so many obstacles in the way of the invaders.

Among the vague traditions lingering in Bengal is one, that at the period mentioned the whole of the country was ruled by twelve great princes, and hence Bengal is often spoken of by Hindús as the "Bárah Bhúya Mulk." Who these princes were, by whom they were appointed, and to whom they owed allegiance, has never been investigated. The following notes regarding five of these governors, imperfect though they are, will it is to be hoped excite others, who have the opportunity, to add

further particulars and complete what is still wanting of the history of Bengal previous to the final conquest by the Muhammadans.

My attention was first directed to this subject by the perusal of a work which accidentally fell into my hands. It was published at the time that the controversy regarding the Permanent Settlement was raging fiercely among the English officials, and one of its chief objects was to determine who were the persons actually in possession of the lands of Bengal at the time the country was finally reduced to the authority of the emperor Akbar. Mr. Rouse* ascertained that at the period referred to Bengal was held by twelve "Bhuyan," and that five of these ruled over southern and eastern Bengal. Before detailing the history of these five Bhúyas, as far as it has been possible to trace it, the meaning of the title Bhúinhár, Bhúmik, or as the word is used in the vernacular, Bhúya, must be explained. These terms literally mean a landholder or occupier of land. Mr. Rouse held that they were synonymous with "krishán," a cultivator. Mr. Shore, however, in his well known minute of the 2nd April, 1788, says with more correctness that "bhúmik and zamíndár are the same."† At the present day, however, Bhúmik or Bhúya is a common patronymic among Bráhmans, Baidyas, and Káyasths, and it is occasionally met with as a surname of the despised Jogí weavers. Bhúya again is a Muhammadan title, and no Muhammadan of Eastern Bengal is ever addressed as Bhúmik.

In the villages of the interior, Bhúmik is frequently employed as the equivalent of 'Kartá,' an agent or proprietor. It is also a respectful term by which to address any landholder. It is, moreover, used in Bikrampúr by servants to their masters, even though they possess no lands.

Again, as late as the beginning of the present century, the Rájá of Kachhár conferred the titles of Baṛá Bhúya, Majholá Bhúya, and Chhoṭá Bhúya on any petty landholder (Míráṣdár) who paid him a fee of fifty rupees. In the census report of 1872, these Bhúyas, 374 in number, are returned as belonging to the semi-Hinduized aboriginal race of Bhúiya!

The titles bestowed by the Dihlí kings were mostly Arabic or Persian, rarely Sanskrit. It is probable, therefore, that Bhúmik was conferred by the Hindú princes of Gaur, or Nadiyá, as we know the titles of Rájá Rái, Chaudharí, and Mánik were.

History affords us little information regarding the landholders of Bengal before Akbar's reign. About 1541, however, we learn that Sher Sháh divided the provinces of Bengal among a number of officers or governors, as they were variously called, independent of each other, with Qází Fazílat as Amír

* Dissertation concerning the Landed Property of Bengal, by C. W. B. Rouse, Esq., London 1791.

† Analysis of the Laws and Regulations, by J. B. Harington, Vol. III, 240.

or Amín to superintend the whole. Also, that Islám Sháh a few years later abolished all former regulations regarding jágírs.

Regarding the position of the twelve Bhúyas towards the paramount power we know little. From an occasional reference to them by Muhammadan historians supplemented by tradition, we learn that they were independent of each other; that their rank and jurisdiction were hereditary; that they retained armed men and war-boats; that they remitted to the governor the revenue of their districts; and that they yielded a general obedience to the ruling monarch at Dihlí. In some respects they were Jágírdárs and Chaklahdárs, but they more closely resembled the Zamíndárs of later times. Under them were Chaudharís. Ralph Fitch mentions that, when he visited the city of Srípúr in 1586, the Chaudharí, or "King," was in rebellion against Akbar. Now, Srípúr was within the principality of Bikrampúr and within a short distance of the residence of one of the Bhúyas.

The five Bhúyas, whose history is the subject of this paper, ruled over portions of the modern districts of Dháká, Maimansingh, Tiparah, Bhaluah, Báqirganj, and Faríd púr. Mr. Rainey,* without giving any authority, mentions that the Bárah Bhúya country extended to Oṛísá *and Ásám.* If this is proved to be correct, it will be interesting to ascertain the connection between the dynasty of the Bárah Bhúyas of Ásám, referred to by Dr. Buchanan† and Colonel Dalton,‡ with the Bárah Bhúyas of Bengal. According to the tradition preserved by the former writer, these princes belonged to the Pál family, and were descended from the Bhungyá, Bhúniya, or Bhúya race. It is remarkable also that Colonel Wilford§, alluding to the twelve Bhúyas of Bengal, should call them "the twelve Bhúniyas, Bhattis, or principalities."

The five Bhúyas, whose history is now to be narrated, are—

1. Fazl Ghází of Bhowál.
2. Chand Rái and Kedar Rái of Bikrampúr.
3. Lak'han Mánik of Bhaluah.
4. Kandarpa Náráyana Rái of Chandradíp.
5. 'Ísá Khán, Masnad i 'Álí of Khizrpúr.

Of the remaining seven Bhúyas, Rájá Pratápáditya of Jessore was one, and perhaps Mukund Rái of Bosnah was another.

I. Fazl Gha'zi' of Bhowa'l.

On the north of Dháká, extending towards the Gáro Hills, lies the jungly tract of Bhowál. Its soil chiefly consists of red laterite. Its

* Proc. A. S. B., December, 1868.

† Eastern India, Vol. II, 612.

‡ Ethnology of Bengal, p. 81.

§ Asiatic Researches, Vol. XIV.

surface is traversed by numerous rivers which flow through a hilly and generally barren country. It is the home of the Sál tree and of the wild date palm; and at the present day various Hinduized tribes, calling themselves Kochh-Mandai and Súrajbaṇsí, are found settled in villages throughout the forest. Its most northern portion, still known as Ran-Bhowál, formerly belonged to the kingdom of Kámrúp.

In this tract are three places, called Rájábárí, the residence, according to local tradition, of three of the Pál Rájás. Four miles west of the modern Kapásia Thánah, is the abode of Sisú Pál; at Shabár, on the Dhalásarí, is the Koṭ-bárí, or fort, still in perfect preservation, of Harish-chandra Pál; and on the right bank of the Túrag river in parganah Ṭálibábád, are the ruins of the Rájábárí of Jas Pál. Regarding these different rulers scarcely any thing survives. At Dhámrái, on the western border of Bhowál and near Shabár, is a very famous image known as Jas Madhava, which tradition says was found many centuries ago amid the ruins of the abode of Jas Pál. This image, made of "ním" wood, painted green, is Hindú in character, and according to the priests represents Krishna. On the head of the god, who has four arms, is a tall turretted crown, and at each side are two female figures. At the Rath-játrá, a great festival is held, and the image is dragged on a car from the temple to a house at the opposite end of the town.

This is the only record that connects the ancient and modern histories of Bhowál.

The next event in the history of Bhowál belongs to the Bhúya rule. In the sixteenth century, this and several adjoining parganahs were administered by a family known as the Ghází.

They traced their descent from one Pahlawán Sháh, who lived nineteen generations, or 570 years, ago.

It is evident from the traditions still lingering among the people that the first Muhammadan conquest of Bengal, to the south and east of Gaur, was accomplished by forces of armed fanatics, who warred for "the faith" without any authority from the court of Dihlí.

About the beginning of the fourteenth century, Pahlawán Sháh had acquired great renown as a leader of these enthusiastic warriors. His son Kár-farmá Sáhib,* was a very holy man. On one occasion, he visited Dihlí, where he performed a miraculous feat by uniting the two roofs of a building, which all the court architects had failed to do. The emperor sent for him, and enquired what could be done to serve him. He replied

* Mr. Blochmann informs me that he has never met with this title in any Muhammadan author. I am told, however, that in Calcutta several families of Sonár Bániks have the title Kath-farmá, and in Eastern Bengal Kár-kun, Kár-pardáz, and similar titles still exist.

that money could not be safely transported to Bengal, and was therefore useless to him, but that if his majesty would bestow on him the parganah of Bhowál, his gratitude would be complete. At once the grant was made out, but a difficulty arose as to the name of the heir who was to succeed him. Although unmarried, the saint informed the monarch that he, Kár-farmá Sáhib, would have eighteen sons and daughters before he died, and that his eldest son and heir would be known as the Baṛá Ghází. In his name, therefore, the deed was drawn up.

Kár-farmá Sáhib returned to Bhowál, and settled at Chaurá, near Kálíganj on the Lak'hiyá, where the family has ever since resided.

The seventh in descent was Mahtáb Ghází, who succeeded his brother Bahádur Ghází in default of children. Either he or his son Fazl Ghází,* was Bhúya, when the armies of Akbar entered Bengal.

According to tradition, the principality ruled over by this family consisted of the parganahs now called Chand-Pratáp, then Chand Ghází, Ṭálibábád† or Tálá Ghází; and Bhowál, or Baṛá Ghází.

The present representatives of this family possess several old records; but their authenticity is doubtful. The first purports to be an order from Sháh Shujá' to "Madár ul-Mahámm Islám Khán," informing him that Daulat Ghází was to be recognized as heir. A second fixes the revenue to be paid by Bhowál at Rupees 48,300 a year.

For a century nothing is known of the family except the names of the successive inheritors of the estates. The anarchy that broke out on the death of Aurangzíb found the Gházís neglectful of their zamíndárí affairs and entrusting the entire management to Bengali servants. These unscrupulous men dispossessed the family, and shared the plunder among themselves. Sulṭán Ghází, in 1779, petitioned Lord Cornwallis to have his property restored, but in vain. His descendants still reside at their ancestral seat, objects of pity to every Muhammadan around, and hold possession of a few acres of "jíbiká," or charity lands, in the neighbourhood.

At Chaurá are still shown the tombs of Pahlawán Sháh and Kár-farmá Sáhib. Beside the latter is an old ruined mosque, without any inscription, and a tank of vast dimensions. About a mile to the west is a carefully preserved tomb of one Báyazíd Ghází. It is surrounded by a wall, and at a little distance are the indistinct outlines of a fort. Close to this is a dried up water-course, known as "Kosah K'hálí," where the war-boats of the family lay. Close to the river Lak'hiyá, near the modern village of Bálígáoṇ, stood a very handsome mosque, built by Bahádur Ghází, the

* Rouse gives the name of this Bhúya as Jona Ghází; but no such name is known among Muhammadans. The prophet Jonah is known as "Yúnas."

† In the Dháká collectorate records this parganah is written Talipábád, for Ṭálibábád, طالب آباد.

father of Mahtáb. A few years ago it fell down, and the inscription, which is now quite illegible, is still preserved.

Under the Ghází rule there were many dependent talukdárs, paying revenue direct to the head of the family. Each of these possessed a piece of land near Chaurá, where his "bási-bárí" stood. These houses have disappeared; but the talukdárs still hold the lands on which they stood, and pay rent for them to the present Hindú zamíndár of Bhowál.

II. Chand Ra'i and Kedar Ra'i of Bikrampu'r.

The large and important parganah of Bikrampúr, then on the west of the Ganges, which contains the residence of Ballál Sen and the settlements of several of the Ráṛhí Kulín Bráhmans, was governed by two brothers Chand Rái and Kedar Rái. They were káyasths, and their "padbí," or family title, was Dé.

The tradition is, that about a hundred and fifty years before the reign of Akbar, Ním Rái came from Kárnáṭ and settled at Ára Phúlbariá in Bikrampúr. He is believed to have been the first Bhúya, and to have obtained the sanction of the ruling monarch to his retaining the title as an hereditary one in the family.

Nothing is known of the other descendants of Ním Rái; but at the time we are now writing of, the two brothers, whose names are always mentioned together, were Bhúyas of this extensive parganah.

Between 'Ísá Khán of Khizrpúr, whose stronghold was on the opposite bank of the Ganges, and the two brothers there was constant warfare. 'Ísá Khán made a successful raid into his enemies' country, carried off and forcibly married Sonái (Svarnamáyí), the only daughter of Chand Rái. This is the only story that remains in connection with the two brothers. Several memorials, however, of these Bhúyas still exist. There is the lofty Rájábáṛí Mat'h, which is a prominent land-mark for miles around, on the left bank of the river Padma (*vide* plate XI). It stands at a short distance from where the great city of Srípúr formerly was. This Mat'h is a four-sided tower, twenty-nine feet square at the base. In the first thirty feet, the walls are ornamented with various patterned bricks in imitation of flowers. The middle of each face is raised and ribbed. The walls are eleven feet thick, and the bricks used in their construction are of peculiar shape. They are larger than those found in Muhammadan buildings of the same age, being eight inches square, and one and a half thick. On the summit is a large spherical mass, round which several picturesque pípal trees have entwined their roots and are gradually destroying the stability of the spire.

This Mat'h was a shrine dedicated to Shiv; but as it is buried in the midst of dense jungle and marshes, it is rarely visited at the present day.

On the north of this temple is a large reservoir, called "Késab má ká Dig'hí," after a slave belonging to Chand Rái.

On the south of the river Padma, at Ára Phúlbariá, these Bhúyas resided, where there is a piece of land still called Kedar Báṛí, and a large tank constructed by the two brothers.

After the death of Chand Rái and Kedar Rái nothing is known of the family. The elder branch, it is said, became extinct, but the descendants of a younger son still survive, and reside at Múlchar, south of Munshíganj.

From this family the parganah of Bikrampúr passed into the hands of a Baidya family, the Chaudharis of Nayapáṛá, who had been servants of the Bhúyas. They were Samáj-patí of their caste, and held the most prominent position among the landholders of Bikrampúr. Tradition states that they had 700 slaves attached to their establishment, and that they gave away a great portion of the parganah in small taluks to Bráhmans and others. Several of these grants are still recognised as "independent taluks" by the English Government. Towards the end of last century, Rájá Ráj Ballabh, the famous but unscrupulous Díwán of Dháká, took from them the Samáj-patí rank which they had so long held, and assumed it himself. The river Padma shortly afterwards washed away their princely residence, and they, too, like the Bhúyas, disappear from history.

III. Lak'han Ma'nik of Bhaluah.

Over the parganah on the east of the Megna ruled Lak'han Mánik Bhúya, and his residence was at Bhaluah.

The history of this family, according to Bengali tradition, is as follows: Rájá Bishambhar Rái, of the low class of káyasths called Súr, had undertaken a pilgrimage to the sacred shrine of Sítákuṇḍ in the Chittagong district. His boat was anchored one night alongside a sandbank in the river Megna. While sleeping he had a dream that he had settled in that place and had become king of all the adjoining districts. The dream he regarded as a divine revelation, and he determined to act in accordance with it. In the morning, he mistook, in the broad reaches of the river, the direction he was going. He therefore called the place Bhaluah, from the Hindí *bhúlná*, to mistake! The exact date of this fiction is given as the 10th of Magh, 610, Bengali year, or A. D. 1203, the same year in which the first Muhammadan invasion of Bengal under Bakhtyár Khiljí took place. There are, however, many reasons for doubting the accuracy of this date. According to the pedigree preserved in the family, Rájá Lak'han Mánik was seventh in descent from Bishambhar Rái, while the interval between the death of the one and the birth of the other must have been at least 350 years.

Rájá Lak'han Mánik was one of the Bhúyas of Bengal and a contemporary of Kandarpa Rái of Chandradíp, who is known to have been living in A. D. 1586. Kandarpa Rái died, and was succeeded, while still a boy, by his son Rámchandra Rái. Lak'han Mánik, whose principality was only separated by the Megna from that of Chandradíp, was in the habit of talking contemptuously of his youthful neighbour. Rumour soon spread the story, and it reached the residence of Rámchandra. He immediately ordered his war-boats to be got ready and his followers to be armed. The fleet crossed the Megna and anchored off Bhaluah. Lak'han Mánik, not suspecting any treachery, went on board to welcome his neighbour without any guard. He was at once seized and carried off to Chandradíp. The youthful Bhúya wished to put him to death, but his mother interceded and warned him against committing such a crime.

Lak'han Mánik was for long detained in close confinement; but one day when Rámchandra visited him, the prisoner upbraided him with perfidy and wilful cruelty. Ramchandra lost all self-control, and ordered him to be put to death, which was at once done.

Of the successors of Lak'han Mánik nothing is known. At the present day, however, in the village of Srírámpúr, parganah Bhaluah, are several poor káyasths, who claim to be descended from an elder branch of this Bhúya's family.

There are several circumstances connected with this Bhúya which are of interest in a historical point of view. Abulfazl in his Ain i Akbarí says, "Tiparah is independent; its king is Bijai Mánik. The kings all bear the name of Mánik."* The third son of Lak'han Mánik was Bijai Mánik, and in the genealogy of the family he has Rájá prefixed to his name. As he lived about the time Abulfazl wrote, he is probably the person referred to, and not the Bijai Mánik of the Tiparah Ráj-málá.

It is difficult to understand how this Bhúya held possession of his frontier post, while Portuguese, Mags, and wild hillmen were pillaging, as we know they did, both banks of the Megna during the sixteenth and seventeenth centuries. It is still more surprising that he should have been left unmolested by the Rájá of Tiparah, since Bhaluah was separated from other portions of the Muhammadan empire by lands which often belonged

* The Bengali story is that one of the Rájás of Tiparah went to Dihlí with a "nazar" for the emperor. Among the offerings was a magnificent ruby, which the Rájá called by its Sanskrit name "Mánik," and not by its Persian, "Lál." The emperor was puzzled by the word, and when it was explained, he gave it as an honorary title to the Rájá. The story goes on to state that this gem was found in a toad; for it is an universal belief among natives, as it was in Shakespeare's time, that—

"The toad ugly and venomous,
Wears yet a precious jewel in his head."

to or were occupied by the rulers of Tiparah. Besides, if we follow Colonel Wilford, the kings of Arakan and Tiparah were constantly striving for the mastery and the former even conquered the greatest part of Bengal; hence "to this day" they assume the title of lords of the twelve Bhúniyás, Bhattis, or principalities, of Bengal.

IV. Kandarpa Na'ra'yana Ra'i' of Chandradi'p.

The following romantic story is narrated by the Bengalis to account for the name Chandradíp.

There was once a Bráhman of Bikrampúr, called Chandra Sekhar Chakravartí, whose tutelary deity (Ishta devatá) was Bhagavatí. He married; but it was not until he brought his wife home that he found to his dismay that her name was that of his patron goddess. This circumstance distressed him greatly, and he was puzzled to know how he could invoke the goddess in his wife's name, or treat as a wife one who bore her honoured title. He at last arrived at the conclusion that it was better to kill himself. Distracted in mind he got on board a small boat, and resolved to drift out to sea until he was lost. It was then all open sea to the south of Bikrampúr, and he sailed on for a day and a night without meeting with any one. On the morning of the second day, he was surprised to see in the distance a boat rowed by a solitary fisher girl. He addressed her, and enquired how she had the courage to be so far from land in a frail fishing boat, and alone. She replied, that she was following her trade and felt no fear, but that she was astonished to see him, a Bráhman and a landsman, adrift at sea. He then told her of his perplexity, and of his determination to destroy himself. On hearing his story, the girl raised a scornful laugh and said, "O Bráhman, how foolish and ignorant you are! Do you not know that the goddess Bhagavatí dwells in every woman, and that every woman is her Saktí, or personified power? Why then should you be surprised that your wife bears her name?" The Bráhman was amazed at this reproof, and at once felt sure that the fisher girl was a goddess in disguise. He therefore jumped on board the boat, and clasping her knees, besought her to tell him who she was. It was in vain that the girl reminded him of his caste, and of the impurity that would result from his touching one of her despised class. He, however, refused to let her go until she told him, and at last confessed that she was really his tutelary goddess, Bhagavatí. The Bráhman took advantage of the favourable opportunity and besought her to grant him a boon. Bhagavatí assented, and told him that the sea, where they then were, would one day become dry land, and that he would be its proprietor, and that it should be called after his own name Chandradíp, or island of Chandra.*

* I am indebted to Mr. H. Beveridge, C. S., for these legends regarding Chandradíp.

Another legend connected with Chandradíp is, that in former days a holy ascetic by name Chandra Sekhar Chakravartí, was in the habit of travelling about with his servant Danuj Mardan Dé. One night the goddess Bhagavatí appeared to him in a vision, and told him that in the river near his boat were several images which he must secure. The following morning he made his servant dive for them, and each time he brought up a stone image. Unfortunately, he did not try a third time or he would have found Lakshmí, the goddess of prosperity. The two images he found in the river Sondá, and they are still shown by the Chandradíp family.

Chandra Sekhar then predicted to his servant that the sea would soon become dry land, and that he would be the Rájá of it. He also told him to call it Chandradíp after the name of his master.

The history of the Chandradíp family as given by themselves is as follows:

It is currently believed that the sons of the five Káyasths who accompanied the five Bráhmans from Kanauj in the reign of Ballál Sen, settled in Baklá-Chandradíp, a parganah which included the whole of the modern zil'ah of Báqirganj with the exception of Mahall Salímábád. The first of the Chandradíp family was Danuj Mardan Dé. He is styled by the Ghaṭaks as Rájá, and he was the first Samáj-patí or president, of the Bangaja Káyasths. He lived, according to the pedigree, in the fourteenth century. The Ghaṭaks enumerate seventeen Rájás of Chandradíp up to the present day, while they name twenty-three generations since the immigration of the Káyasths from Kanauj.

It is not improbable that the founder of this family is the same person as the Rái of Sunárgaoṇ, by name Dhanúj Rái, who met the Emperor Balban on his march against Sulṭán Mughiṣ uddín in the year 1280. It is not likely that the Muhammadan usurper would have allowed a Hindú to remain in independence at his capital Sunárgáoṇ. If the principality of Chandradíp extended to the river Megna, the agreement made with the Emperor that he would guard against the escape of Ṭughril to the west, becomes intelligible.*

The chief event, however, of his rule was the organization of the Bangaja Káyasths. He appointed certain Bráhmans, whose descendants still reside at Edilpore ('Ádilpúr), to be Ghaṭaks or Kul-Áchárjas of the Káyasths, and he directed that all marriages should be arranged by them, and that they should be responsible that the Kulín Káyasths only intermarried with families of equal rank. He also appointed a Swarna-mata, or master of the ceremonies, who fixed the precedence of each member of the Sabhá, or assembly, and who pointed out the proper seat each individual was to

* History of India, Sir H. Elliot, Vol. III, p. 116.

occupy at the feasts given by the Rájá. These offices still exist, and the holders of them are much respected by all Káyasths.

Rájá Danuj Mardan Dé was succeeded by his son Roma Ballabh Rái, and he by Krishna Ballabh Rái. The latter had a daughter, named Kamala, who caused a large tank to be excavated at Kachúá, the family seat, traces of which are visible at the present day.

Jay Deb Rái, the fourth in descent, died childless. His heir, a sister's son, was Paramánand Rái of the Bose family of Dihúr-ghatí in Chandradíp, who traced their pedigree to Dasarath Bose, one of the original Kanauj Káyasths. He and his successors were acknowledged as the Samáj-patí of the Káyasths of southern and eastern Bengal. This Paramánand Rái is mentioned in the Áín i Akbarí by Abulfazl as the son of the Zamíndár of Baklá, and his almost miraculous escape during the cyclone of 1583 is described.*

The Hindús give a different version of this story. They say that an astrologer warned Jugodánand Rái, the son of Paramánand Rái, that on a certain day and hour he would be drowned in the river. The Rájá shut himself up in a tower of his palace at Kachúá. The river gradually rose as the hour approached, and, just at the time fixed, a mighty wave rolled up on which the goddess Ganga, like another Lurline, rode proudly. She held out her hands to the Rájá who clasped them. In a moment he was swept away and disappeared.

In 1574, Baklá or Chandradíp was invaded by Murád Khán, one of the generals of Akbar and annexed to the empire.†

The grandson of Paramánand Rái was Kandarpa Náráyana Rái, one of the five Bhúyas, whose history is now being detailed. It is of him that Ralph Fitch writes in 1586—"From Chatigam in Bengal, I came to Bacola "(Baklá) the king whereof is a Gentile, a man very well disposed, and de- "lighteth much to shoot in a gun. His country is very great and fruitful, "and hath store of rice, much cotton cloth and cloth of silk. The houses "be very fair and high builded, the streets large, the people naked, except "a little cloth about their waste. The women wear great store of silver- "hoops about their necks and arms, and their legs are ringed about with "silver and copper, and rings made of elephants' teeth."‡

The only memorial of this Bhúya is a brass gun, still preserved at Chandradíp, with his name and that of the maker Rúpiya Khán of Srípúr engraved on the breech. This gun is 7¼ feet in length; 2¼ feet in girth at the breech; and 19½ inches at the muzzle. Through the trunnions, rings had been inserted by which the gun was fastened to the carriage.

* Proc., A. S. B., December, 1868.

† Contributions to the Geography and History of Bengal, by H. Blochmann, Journal, A. S. Bengal, p. 228.

‡ Hackluyt's Voyages, Vol. II, p. 257.

The residence of the Rájás of Chandradíp was at Kachúá, close to the modern station of Báqirganj; but during the lifetime of Kandarpa Rái, or immediately afterwards, they were obliged to move further inland to a place called Madhavapásha, where the Rájás have resided ever since. This removal was necessitated by frequent forays made by the Mags and Portuguese of Chittagong, against whom the Rájás were unable to contend.

The ruins of temples and dwelling houses are still to be seen at Kachúá, but the majority of the Káyasths followed their chief to the newly selected town.

Rámchandra Rái succeeded on the death of his father Kandarpa Rái. Of him many stories are still extant. He married a daughter of Rájah Pratápáditya of Jessore. Between the families of Jessore and Chandradíp there were many ties of friendship, and the marriage was celebrated with great pomp, but ended in a permanent quarrel between the families. Ramchandra, against the advice of all his friends, insisted on taking with him a famous jester, named Ramai Bír, who amused him by his wit and frolics. On the marriage day, this jester, dressed in female garments, entered the house occupied by the Ráni, and conversed with her. His disguise was complete, and she did not detect the imposture. Shortly afterwards, it was discovered, and Rájá Pratápáditya was so enraged, that he vowed he would put his newly-made son-in-law to death. The bride, however, warned her husband, and at night he escaped from the palace and reached the encampment where his followers were. The rivers had all been obstructed, but accompanied by a trusty servant, Rám Mohan Mal, famous for his strength, he embarked in a small canoe and fled. At the places where the obstructions were, Ram Mohan dragged the boat over the bank, and launched it on the other side. In this way the Rájá escaped and reached Chandradíp in safety.

It was not until after the lapse of many years, and probably not until the death of Pratápáditya in 1593, that the bride joined her husband. At the place where she halted, until permission was obtained from her husband to proceed, a market was established, which is still called the "Badhú Ṭhakuráin Hát."

Rájá Rámchandra Rái was succeeded by his son Krishna Náráyana Rái, who accompanied the Nawáb of Dháká on several of his military expeditions. One day, passing the Nawáb's kitchen while dinner was being prepared, he inhaled the fumes from some savoury joint. The Nawáb made merry over this, and told the Rájá that smelling an unclean thing was the same as eating half of it, and that in consequence of what had occurred he would be outcasted. The Rájá took this banter so much to heart, that he transferred his lands to his younger brother Bási Deb Rái and became an ascetic.

With the grandson of this Bási Deb Rái the line of the Bose Rájás of Chandradíp became extinct. He was succeeded by a cousin Udayaya Náráyana of the Mitr Majumdár family* of Ulail, in the neighbourhood of Dháká, whose descendants still represent the Rájás of Chandradíp. Shortly after his accession, Udayaya Náráyana was expelled from his estates by a relative of the Nawáb of Murshidábád. Udayaya proceeded to the court, but the Nawáb refused to reinstate him unless he fought and overcame a tiger. Udayaya, young and fearless, accepted the terms, and being skilled in the use of weapons he encountered the brute and killed it. In this way he regained his ancestral property.

Jay Náráyana Rái, his grandson, succeeded while still an infant. Sunker Bakhshí, one of his servants, managed the estates to his own advantage, and it was not until after a lapse of seven years that Dúrgá Rání with the aid of the Díwán Gobind Singh, succeeded in recovering the management. The Rání, however, was extravagant, and spent a large sum of money in constructing a tank, which is still known as the "Dúrgá Ságar." From this date the fortunes of the Chandradíp family declined. Nrí Singh, the next Rájá, was reputed to be the handsomest man in Bengal; but he was indolent and neglected his own affairs. In the year 1793, a portion of the estates was sold for arrears of revenue, and for many years misfortunes crowded thickly on the Rájás. Lawsuits, the rapacity of servants, and sales by Government, reduced the estates to their present insignificant size. The Rájá, however, still resides at Madhavapásha, where his Khánahbárí, or dwelling house, is situated in the midst of a tract of lákharáj land. In addition, he still possesses a few dependent taluks scattered throughout the district.

V. 'Í'sa' Kha'n Masnad i 'Á'li' of Khizrpu'r.

The most celebrated of all the Bhúyas, however, was 'Í'sá Khán Masnad i 'Álí of Khizrpúr. He is described by Abulfazl as the Marzbán i Bháṭí, or governor over Lower Bengal, and as the ruler over twelve great zamíndárs. The story of his life is not only interesting but important, as it illustrates a period of Bengal history which is omitted in standard histories. Stewart does not mention his name, although he was one of the most able and indefatigable foes met with by the Emperor Akbar.

His descendants still survive, and are the most respected Muhammadan zamíndárs in Eastern Bengal. The Díwán Sáhibs of Jangalbárí and Haibatnagar in the Maimansingh district have furnished much of the following information; but it is from Mr. Blochmann's invaluable Á'ín i Akbarí that the authentic dates and actions of this great Bhúya have been obtained.

* It is to a member of this family, Bábú Brijo Sunder Mitr, Deputy Magistrate, that I am indebted for much information regarding the Chandradíp Rájás.

The family tradition is, that during the reign of Husain Sháh (1493 to 1520), Kálí Dás Gajdání, a Bais Rájpút of Audh, became a Muhammadan, and received the title of Sulaimán Khán. He afterwards married a daughter of the reigning monarch. He is said to have been killed in battle by Salím Khán and Táj Khán. He left three children, 'Ísá, Ismá'íl, and a daughter afterwards known as Sháhinsháh Bíbí. Their father being slain, the two sons were taken prisoners and sold as slaves. They were subsequently traced to Túrán, whence they were brought back by their uncle Quṭb uddín.*

'Isá Khán is said to have married Fáṭimah Khátún, a cousin of his own, and grand-daughter of Husain Sháh of Bengal.

The first event recorded of 'Ísá Khán occurred in 1576. Dáúd Khán, the last of the Súr dynasty, had been defeated, and his scattered forces sought shelter in the Bháṭí country, where they united under command of Karím Dád, Ibráhím, and 'Ísá Khán. The last is designated as the "rich zamíndár," and it is probable that he had already acquired the position of Bhúya. It was after much opposition that Khán Jahán occupied Eastern Bengal at this time. In 1583, Shahbáz Khán i Kambú† followed the rebel Ma'çúm Khán into the Bháṭí country, destroying Baktarápúr, the residence of 'Ísá Khán and occupying Sunárgáon. 'Ísá Khán being hard pressed by the Imperialists, made terms and agreed that an Imperial officer should reside at Sunárgáon. As soon as the treaty was made, however, it was broken, and 'Ísá Khán again raised a rebellion against the Emperor. Two years later, Shahbáz Khán again entered Eastern Bengal with an army, but he was foiled in his attempts to subjugate the country.

In 1586, Ralph Fitch visited Sunárgáon and remarks that "the chief-"king of all these countries is called Isacan, and he is the chief of all the "other kings, and is a great friend to the Christians."

After this, we hear nothing of him. He appears to have died in 1598.‡ He left two sons, Díwán Músá Khán and Díwán Muhammad Khán, of whom tradition even is silent. The eldest son of the former was Ma'çúm Khán, who is frequently mentioned by Muhammadan historians. He served in command of ships at the siege of Húglí, in the beginning of A. H. 1042 (1632); and in the Pádisháhnámah he is included among the chief officers who took part in the invasion of Ásám in 1636, on which occasion he supplied twenty-five war-kosahs.§ The Haibatnagar family still possess a sanad sent by Sháh Shujá' in A. H. 1059 (1649), and another by Sháyistah Khán in 1078 (1667). Both are addressed to Ma'çúm Khán, but contain nothing except orders about war-boats.

* Ain i Akbarí, Vol. I, 342.

† Op. cit., p. 400.

‡ Ain-i-Akbarí, Vol. I, 340.

§ Journal, A. S. B., Pt. I, 1872, p. 57.

His eldest son was Munawwar Khán, zamíndár, as he is called in the 'Álamgírnámah. He accompanied the army which captured Chittagong in December, 1665. For his bravery on this occasion, he was made a commander of 1,000 with 500 horse.

Like his great grandfather, he appears to have been an unruly and turbulent officer, and local tradition asserts that he was often at open war with the Nawábs who ruled at Dháká.

After the settlement of Bengal in Akbar's reign, this family is said to have possessed 22 parganahs in Eastern Bengal; but it is currently believed that during the lifetime of Munawwar Khán, these parganahs were apportioned among four brothers. Munawwar Khán got the property in Maimansingh, which is included in the modern Tappá Hazrádih, where the family residence has been ever since.

As late as the 44th julús of Aurangzíb, A. D. 1700, and during the Nawábship of 'Azím-ushshán, the large parganah of Buldák'hál in Tiparah belonged to them, the representative of one branch of the family, if not its head, being Haibat Khán, the founder of the town of Haibatnagar. The peshkash, or quit-rent, of that property for the year 1700, was fixed at rupees 1,261, annas 7, and the zamíndár had to furnish 37 war-boats, each manned by 32 sailors, and a few kosah boats.

In 1761, during the Nawábship of Jasárat Khán, the family still possessed parganah Nuçrat Sháhí, and many of the Nawárá Maháls in Dháká and the adjoining districts.

Large portions of their extensive properties were given away rent-free to Bráhmans, or subdivided into small holdings. At the decennial settlement, the under-tenures were so numerous and scattered, that the zamíndár found it impossible to collect the revenue. He petitioned the authorities to make a settlement with his tenants and allow him instead an annual pension. This was agreed to, and the Masnad i 'Álí of the present day receives a yearly grant of money. All the lákharáj lands given away by former zamíndárs have been recognized as such by the British Government.

Of the descendants of Munawwar Khán little is known. Subhán Dád Khán of Jangalbárí in Maimansingh is the head of the family at the present day, while 'Iláh Nawáz Khán of Haibatnagar, who died in Calcutta in October 1872, was the last male descendant of Muhammad Khán, the younger brother of 'Ísá Khán.

Other branches of the family are settled at Ja'farábád and Bághalpúr in Maimansingh; at Harishpúr* in Tiparah; and at Kaṭrábo in Dháká.

Khizrpúr is generally associated with 'Ísá Khán's name. It is situated about a mile north of the modern Náráyanganj, and close to it is one of the forts built by Mír Jumlah in the seventeenth century, which is called the Hájíganj, or Khizrpúr, Kil'ah. At this point, the Ganges, Lak'hiya, and

* The eldest son of the zamíndár is always styled Ṭhákur.

Brahmaputra formerly met. Here was the chief naval port of the Muhammadan government, and from it all their great naval expeditions set out. It is only three miles west of Sunárgáon, and nine from Dháká. The name of Khizrpúr is still given to the parganah of which it is the centre and to a marble tomb, or Maqbarah, within a walled garden, which is popularly believed to be the resting-place of one of Jahángír's daughters. On the north and west is a "tappá," or quarter, still called 'Ísápúr, and on the north is a village, belonging to parganah Nuçrat Sháhí, known as Pat'hántalí, but where the last of the Afgháns have long since died out. From Khizrpúr towards the west can be traced an old road with several ruined bridges, which joined that from Dháká at Fathullah on the banks of the Buṛhíganga.

At Khizrpúr, within the precincts of the fort, still stands a very handsome mosque, beautifully ornamented with bricks, and which resembles in many respects the old Goáldih Mosque of Sunárgáon, which was built in the sixteenth century. Until a few years ago, an inscription existed over the entrance. A case, however, instituted by the Díwán Sáhib of Haibatnagar to recover possession of this his ancestral property, induced some interested party to make away with it, and all attempts to recover it have failed. In front of the mosque is a brick tomb, regarding which local tradition can give no account; but it is believed to be the grave of an unknown Pír.

On the banks of the Lak'hiya, which flows within a few yards of the mosque, are a ruined bastion and curtain wall, which the villagers designate the "ghusl khánah," or "baiṭhak-khánah," but which evidently was the northern face of the Khizrpúr fort.

Of 'Ísá Khán and his connexion with this place, no traditions survive among the people, and among the educated Muhammadans of Dháká, no one has even heard of his name.

Regarding Baktarápúr, the residence of 'Ísá Khán, destroyed in 1583 by Shahbáz Khán, nothing has been discovered. About thirty miles north of Khizrpúr, on the banks of the same river, are two villages within a mile of each other, called respectively "Buktarpúr" and "Issurpúr," but there are neither ruins nor traditions connected with them.

Other memorials of this family exist in other parts of the district. On the right bank of the Lak'hiya river, about four miles above Khizrpúr, is a ruin known as the "Díwán Koṭ," said to have been built by one of the family. It stands on a point of land, jutting into the river. The place is strewed with bricks, and there is a portion of a wall with a pointed arch still standing. A magnificent But tree overshadows the whole of the ruin.

On the opposite bank of the river, about two miles inland, is a large garden, 169 acres in extent, termed the "Díwán ká bágh," or "Munawwar Khán ká bágh." Here is a three-domed mosque in ruins, which is believed to have been built by Munawwar Khán in the seventeenth century. On

the outside are ornamental tiles, while inside are three mihrábs, the two side ones constructed of similar tiles, and the large centre one of grey sandstone.

On the east of the mosque, Munawwar Khán was buried; but his tomb has long since disappeared. On the north is a fine tank, about 500 yards long and 250 broad. Though situated in the centre of the Dháká district, this garden formed until late years a part of Tappá Korík'hái, zil'ah Maimansingh, and the revenue was paid direct into the collectorate of that zil'ah.

The following particulars regarding 'Ísá Khán have been received from the Jangalbárí family.

'Ísá Khán married Fáṭimah Bíbí, the daughter of Sayyid Ibráhím, Málik ul-'ulamá. When at the height of his power, 'I'sá Khán ruled from G'horág'hát to the sea.

After his defeat by Shahbáz Khán in 1583, 'I'sá Khán fled by ship to Chittagong. Collecting there a body of troops, he returned to Bengal, and attacked the Koch Rájá in his fort, which was situated where the present village of Jangalbárí in Maimansingh now stands. This fort was surrounded by a moat, and it had only one gateway on the south side. When the assault was made, the Rájá escaped by a tunnel, which is still shewn. Within this captured fort, 'I'sá Khán constructed a dwelling-house where he and his descendants have resided ever since. 'I'sá Khán subsequently subdued the whole of Eastern Bengal and erected forts at Rangámáṭí in Ásám, at Tribení opposite the modern Náráyanganj, and at Igárah-Sindhú, where the river Lak'hiya leaves the Brahmaputra.

When Mán Singh invaded Bengal about 1595, he advanced to Igárah-Sindhú and besieged the garrison of the fort. 'I sá Khán hastened to its relief, but his troops were disaffected and refused to fight. He, however, challenged Mán Singh to single combat, stipulating that the survivor should receive peaceable possession of Bengal. Mán Singh accepted the challenge and its conditions, but when 'I'sá Khán rode into the lists, he recognized in his opponent a young man, the son-in-law of the Rájá. They fought and the latter was slain. Upbraiding Mán Singh for his cowardice, 'I'sá Khán returned to his camp. Scarcely had he done so, when word was brought to him that Mán Singh himself was in the field. He again mounted and galloped to the ground, but refused to engage with his opponent until satisfied of his identity. Being assured that Mán Singh was opposed to him, the combat began. In the first encounter Mán Singh lost his sword. 'I'sá Khán offered his, but without accepting it Mán Singh dismounted. His adversary did the same, and dared him to have a wrestling bout. Instead of acceding to his wish, Mán Singh, struck by the generosity and chivalry of

the man, embraced him and claimed him as a friend. After entertaining 'I'sá Khán, he loaded him with presents on his taking leave.

The behaviour of the Hindú prince excited the disapprobation of many of his followers, and the Rání was so indignant at his pusillanimous conduct, that she vowed she would never return to court, where he would be put to death and she be made a widow.

This domestic quarrel, however, was quelled by 'I'sá Khán, who volunteered to return with Mán Singh to Ágrah and trust to the magnanimity of the emperor for pardon.

On their arrival at Ágrah, 'I'sá Khán was thrown into prison, but when the story of the combat at Igárah-Sindhú was told, the emperor ordered his immediate release, conferred on him the titles of Díwán and Masnad i 'Álí, and gave him a grant of numerous parganahs in Bengal.

The Jangalbárí family have only preserved three Sanads of any importance—

The first is from Sháh Shujá', and is dated the 21st Julús of Sháh Jahán A. H. 1057 (1647). In it Ahmad and 'Iwaz Muhammad, members of the family, are directed to wait on Muhammad Ja'far, Díwán of Chaklah Jahángírnagar, and to pay to I'tiqád Khán, 'Umdat ul-mulk, the revenues of the estates held by them jointly.

The second is dated A. H. 1059 (1649), and is sent by Sháh Shujá' to the Mansabdárs and other officials, and directs them to leave the lands owned by Ma'çúm, and to give over to him the Nawáṛá-kárkhánah, or dockyards, which had previously been worked by the Government.

The third bears the name of Sháhzádah Muhammad 'Azím, better known as 'Azím ush-Shán and the date 44th Julús of 'Álamgír (1700). In it Haibat Muhammad, son of Hayát Muhammad, is ordered to have in readiness 37 kosah boats with 32 boatmen in each; to pay Rupees 10,261-7, the revenue of Parganah Buldák'hál, &c., and to remit the rental of the 'Páibáqí', or reserved lands, then held by Luṭfullah and 'Ináyatullah.

Among the parganahs enumerated on the reverse are—

Parganah	Buldák'hál,	in Sirkár	Sunárgáoṇ.
„	Kaṭrábo	„	Bázúhá
„	Darzí-bázú	„	ditto
„	Husainpúr	„	ditto

Notes on Sháh Ismá'íl Ghází, with a sketch of the contents of a Persian MS., entitled "Risálat ush-Shuhadá," found at Káṇṭá Dúár, Rangpúr. —*By* G. H. Damant, B. A., C. S.

There are four Dargáhs, or shrines, in Rangpúr, erected to the memory of Sháh Ismá'íl Ghází. They are all situate a few miles to the north-east of G'hoṛág'hát, in thánah Pírganj. The principal one is at Káṇṭá Dúár, a place marked in the survey maps as Chatra Hát, and as Katta Doar on Sheet 119 of the Indian Atlas. It is said to have been erected over his body. About three miles west is another at a place called Jalá Maqám. The dargáh is in a jungle on a piece of land surrounded by old ditches. It seems to have been originally a fort or intrenched camp. These two dargáhs are under the care of the same faqír, who has a large jágír and claims to be a descendant of one of the servants of Ismá'íl, who came with him from Arabia. The head of the saint is said to be buried at Káṇṭá Dúár, and his body at Madáran, in Jahánábád, west of Húglí. There is another dargáh, about 18 miles south of Rangpúr, on the Bográ road, said to be erected over his staff; and a fourth, or rather a sacred place (for I could see no building) on an island in the middle of a large *jhíl*, called Borobhilla. I found the MS. from which extracts have been given, in the possession of the faqír of Káṇṭá Dúár. He assured me it had been in the possession of his family for many generations, but he was unable to read it and was quite ignorant of the contents. The short facts as given in the MS. are, that in the time of Bárbak Sháh, Ismá'íl came to Gaur, where he gained the favour of the king by building a bridge or embankment across the great marsh, called elsewhere Chuttiah Pattiah. He was then sent against Gajpatí, king of Madáran, or Oṛísá, whom he utterly defeated, and lastly, he fought two battles with Kámesar, king of Kámrúp. In the first battle he was defeated, and the second seems to have been somewhat indecisive; but the king finally tendered his allegiance, and consented to pay tribute, though it does not appear that the country was regularly occupied by the Musalmáns. The Hindú governor of G'hoṛág'hát appears to have been envious of Ismá'íl's fame, and falsely charged him with entering into an alliance with the king of Kámrúp and conspiring to form an independent kingdom. A force was sent against Ismá'íl, and he was beheaded, the MS. says in the year 78, but I imagine a figure must have been omitted here, and that we must read 878, which would bring his death to the end of the reign of Bárbak Sháh.

The account given in the MS. corresponds most strangely in many particulars with the legend which Mr. Blochmann heard at Húglí (*see* Asiatic Society's Proceedings, April, 1870, page 117). In that legend, Ismá'íl

is said to have invaded Oṛísá with success, and to have been falsely accused by a Hindú of attempting to set up an independent kingdom at Madáran, and on this false charge to have been beheaded by order of the king. We may, I think, on this double authority take these two statements to be established facts.

The MS. further goes on to say, that Ismá'íl successfully invaded Kámrúp, and this seems probable by the number of memorials of him which still exist, and which are situate, if not actually within the boundaries of Kámrúp, at all events on the extreme eastern limit of the territory which was subject to the kings of Bengal in the fifteenth century. And finally, the date is thirty years earlier than the reign of Husain Sháh, who is mentioned in Mr. Blochmann's legend; but it must be remembered that Bengalis almost invariably attribute any important event of which they do not know the date, to the time of that king; for he is the only king who is still remembered by name among the common people.

Extracts from a Persian MS. found in the possession of the Faqír in charge of Ismá'íl Ghází's tomb at Káṇtá Dúár, Rangpúr.

Pír Muhammad Shaṭṭárí, the meanest of the servants of God, and the son of 'Áqil Muhammad Farkhárí,* relates that at four g'haṛís on the morn-

* Pír Muhammad Shaṭṭárí, son of 'Áqil Muhammad Farkhárí, the author of this treatise. The Shaṭṭárís form a sub-division of the *Ṭaifúriyahs*, an order of religious men, so called after Ṭaifúr-bin 'Isá-bin Ádam-bin Saroshán (or Sharwásán). Ṭaifúr, whose grandfather had originally been a fire-worshipper, is better known in history under the name of Báyazíd (the Persian form of the Arabic Abú-Yazíd) of Bisṭám. Bisṭám is a little town in Kúmis, or Qúmis, a tract in the hills of Ṭabaristán, between the ancient city of Rai and Níshápúr. The chief town of Kúmís is Dúmghán, from which Bisṭám lies at the distance of two stages. Báyazíd is one of the most famous saints of Islám. He is said to have been born in A. H. 136 [A. D. 753-54], and died at Bisṭám in A. H. 231, or 234, or 261, (which Jámí in his *Nafhát ul-Uns* says is the correct year), or 262, or 269. Numerous imitation tombs of Báyazíd exist, notably one at Chátgáon (Chittagong); *vide* Journal, A. S. Bengal, for 1872, Part I, p. 336.

The order of religious men and Súfís, of which Báyazíd is the head, is called after him *Ṭaifúriyah*. But the Ṭaifúrí, who first assumed the name of Shaṭṭárí, was Shaikh 'Abdullah Shaṭṭárí, author of the *Risálah i Ashghál i Shaṭṭáriyah* and founder of the sub-division. The name of Shaṭṭárí is derived from the Arabic شطّ, walking quickly; and in the language of the sect, *'ilm i shaṭárah* signifies 'the working and aspirations of the soul,' which end in *faná fillah*, 'merging into God,' and *baqá billáh*, 'resting in God.' As Shaikh 'Abdullah reached the highest degree in this respect, he was called 'Shaṭṭár.' 'Abdullah lived for some time in Mánikpúr and Jaunpúr during the reign of Sulṭán Ibráhím Sharqí, and emigrated at last to Mándú, the then capital of Málwá, where he died in 882 [A. D. 1428-29]. When Jahángír visited Mándú, he built at the request of Shaikh Pír i Mírat'hí, who was a Shaṭṭárí, a mausoleum over 'Abdullah's tomb in Fort Mándú. *Vide* Khazínat ul-Asfiá, p. 947.

ing of the 22nd of Sha'bán, 1042, [22nd February, 1633] he and his companions were sitting near the tomb of Sháh Ismá'íl Ghází, the Arab, the greatest of martyrs, when Shaikh Kabír, Shaikh Laṭíf, Shaikh Mas'úd, and other keepers of the tombs in Káṇṭá Dúár and Jalá Maqám, faithfully related some memorable events in his public life.

The audience listened to the narrative with wrapt attention and great interest, and thought that the events mentioned should be recorded and written in a book. The task was conferred on this humble individual, who in the reign of Shihábuddín Muhammad Sháhjahán Pádisháh i Ghází,—may God make his kingdom and reign everlasting!—faithfully performed it, and named the book "Risálat ush-Shuhadá," hoping that mistakes, if there be any, will be corrected and errors rectified by the learned of the time.

Tradition states that Ismá'íl Ghází, a descendant of the family of the prophet, was born in the holy city of Mecca. From his youth, he was a devout follower of religion, and spent his time in preaching and teaching. A hundred and twenty wise men and their tutor Maulánú Husámuddín of Arabia always attended him. The Maulánú had a brother, named Kamál-uddín, who happened to be reading the Qorán, and came across the passage, 'the martyrs to their God shall have a great reward,' a text which inspired all the after-actions of Ismá'íl's life. No sooner had he heard it, than he felt a great contempt for an inglorious life and an earnest desire to exalt himself to the rank and honour of a martyr. At last, he opened his mind to his tutor, the Maulánú, who gave him every encouragement in his noble pursuit, and he addressed his friends as follows, "You know, my friends, that 'attempt is from man, but success is from God;' bless me then, that God may give me success in my undertaking and the everlasting happiness which I desire." They were much affected at hearing these words, and became equally desirous to reap the honour of martyrdom, which they considered to be above all terrestrial and celestial glory, so they promised Ismá'íl to assist him in rooting out infidelity wherever they went, and to devote themselves wholly to the cause of God. Inspired by the holy words, "Say not that they have perished who are slain while in the

The author, therefore, of this work, who during the reign of Sháhjahán was Mutawallí of Ismá'íl's tomb at Káṇṭá Duár, in Thánah Pírganj, Rangpúr, belonged to the Shaṭṭárís.

Pír Muhammad's father is called 'Aqíl Muhammad Farkhárí. Farkhár is the name of a place in Badakhshán, above Ṭálíkhán; but the name Farkhár is also given to a tract between Khaṭá (Cathay) and Káshghar. Farkhár is often mentioned in Persian poems as famous for the beauty of its inhabitants; *vide* Tazkirah i Daulatsháhí, under Ustád Farkhárí, towards the end of Chap. I. The Mutawallís of Ismá'íl's tomb are, therefore, not of Arabian origin as Ismá'íl himself.

path of God; they are alive even though you know it not," they were filled with courage and daring, they kept the feet of courage in the path of martyrdom, robbed their minds of love for home, and set out on their hazardous undertaking. Leaving behind many dreary forests and deserts, they reached the frontiers of 'Ajam [Persia], from whence they passed to Hind, and at last after a long tedious journey arrived at Lak'hnauṭí,* the capital of Sulṭán Bárbak. He was one of the most powerful sovereigns of his time, and his riches and army were renowned everywhere, and he ruled his people with absolute despotism. A turbulent river, called Chuttiah Pattiah, passed through his kingdom. When it became flooded in the rainy season, it caused great loss to life and property. The king had tried every means in his power to keep it within bounds by employing engineers and handicraftsmen, and using materials of every kind; his efforts were continued for seven years, but they always proved fruitless as soon as the rainy season came on. At last, notice was given that all the people were to assemble on a certain day and throw earth into the river, and the Sulṭán himself was to throw in a basket of earth. When Ismá'íl heard of it, he told the king that if a space of three days were allowed him, he would point out the true means to perform this great feat.

The king granted his request and became very anxious to know who he was, whence he came, and what brought him to Lak'hnauṭí, and Isma'íl informed him on every point.

After three days' deliberation and consultation with the wise men, Ismá'íl suggested a plan for building a bridge over the Chuttiah Pattiah, which proved so successful that elephants and horses could pass over it. From that time forth, he was honoured and favoured by the king and employed in many other difficult works.

After a few years, Gajpatí, Rájá of Madáran, rebelled against the emperor. The army sent against him was defeated, and at last the command was entrusted to Ismá'íl. Gajpatí had a very strong fort, made of brass, which had never been taken; and when he heard that Ismá'il, a faqír, was coming to attack him with 120 wise men, he laughed exceedingly; but his queen warned him not to fight with Ismá'íl, who was the soldier of God, or he would surely be defeated. However, he assembled his army, and a battle was fought in which, after a fight of a few hours, he was completely defeated and taken prisoner and beheaded. After this success, Ismá'íl gained still more favour and honour with the king.

In the course of a few years more, a fresh event took place. The royal army sent against Kámesar, king of Kámrúp, being repeatedly defeated, the command was at last given to Ismá'íl.

* The MS. has 'Lak'hnau.'

The valour and spirit with which Ismá'íl and his companions undertook the expedition, gave every prospect of success, but as the Rájá was one of the greatest heroes of his time and possessed good military talents, the conquest of Kámrúp seemed likely to be more difficult than that of Madáran. The Rájá himself took the field, and advanced with his vast army to the border of his kingdom, while Ismá'íl with his troops went to meet him. A battle took place on the field of Santosh within the borders of Islám, but the unfavourable position in which the royal army was placed, proved fatal to them. A great number were killed on both sides, and amongst them the 120 wise men, who fell after performing prodigies of valour and were buried on the battle-field. The only survivors were Ismá'íl, his nephew Muhammad Sháh, and twelve Paiks, by whose aid the fortress of Bárapaiká was erected in the neighbourhood. Leaving Muhammad Sháh in charge of the fort, Ismá'íl marched with two regiments to Jalá Maqám, a piece of land completely covered with water, where he lifted up his hands and prayed God to create a piece of land on which he might pray. A voice replied—"Throw in a shield full of earth, and land will be created," and so it came to pass. Ismá'íl garrisoned his troops there, and sent a message to the Rájá to say, "Sulṭán Bárbak has appointed me to receive your submission, you must present yourself before me, ready equipped for a journey, in order that I may take you to the Sulṭán, and recommend him to grant you your life, and restore you to your own kingdom and preserve your standard. If you do otherwise, you must suffer the consequences." The letter was given to an envoy to take to the Rájá. The envoy arrived at the Rájá's court, and when his business was known, was admitted to the Rájá's presence and delivered the letter. As soon as the Rájá learnt its contents, he became violently enraged, and gave vent to his feelings in very bitter words saying, "I save your life, because it is not my custom to slay envoys; however, tell Sháh Ismá'íl to meet me on the field of battle. I order him to meet me there. Tell him that I am not that Gajpatí whom he has conquered and whose kingdom he has subdued. Let Ismá'íl remember what befel his first army. When all his zealous comrades have fallen, what can he do with his single arm?" The envoy returned, and told Ismá'íl all that had occurred, and after reciting the text from the Qorán, 'A victory from God and a success at hand,' he speedily made his preparations and marched against Kámesar. The armies approached, but as night came on, both parties were obliged to delay their strife. Ismá'íl, taking advantage of the darkness of the night, put on a disguise and riding amongst the disorderly multitude succeeded in passing unnoticed through the city gates, and penetrated to the room where the Rájá and Ráni were lying asleep in each other's arms. He did not kill them as he might easily have done, but fastened their hair together, and unsheathing a sword which was lying near

the Rájá, he placed the blade across their breasts. After he had done this, he rode back to his camp.

Next morning, the Rájá and Rání awoke and found what had befallen them. At first, they thought it was the deed of some evil spirit, as it seemed impossible for any human being to have passed unnoticed through the guards into their sleeping apartments; so they were both stricken with fear and knew not what to do. At last, the king perceived some horse's dung and footmarks in the courtyard, and then he came to his senses and felt sure it must have been done by some man; but as his fear was only transferred from spirit to man, it was rather increased than the contrary. The Rájá questioned his guards, but they declared that not even a bird, much less a man on horseback, had dared to pass into the courtyard during the night. The Rájá could not help believing them, but ordered them to keep strict watch the next night. When the next morning came, the Rájá and the queen found themselves in the same state as before. The same thing happened on the third night, and they became excessively astonished and alarmed, and came to the conclusion that no ordinary man could have treated them in this way for three nights together, and at last thought it must be no other than Sháh Ismá'íl Ghází.

In the meantime, Ismá'íl had assembled a large number of his friends and companions at his camp, and asked them whether there was among them any one daring enough to go alone to the Rájá's court, and bring him to the camp. They one and all declared they would go: but before any one could set out, an ambassador arrived from the Rájá to say that, if his life was secure, he wished to pay his respects to Ismá'íl. He assured the ambassador of the Rájá's safety, and after a short time, the Rájá himself came bringing tribute and rich presents and throwing himself prostrate, said: "Consider me one of your meanest servants and give me some *pán** from your mouth, and henceforth you shall be my God." After he had spoken some time in this strain, Ismá'íl could not but believe he was sincere, so he gave him some food from his mouth, which the king accepted and ate with the highest marks of gratitude and esteem. As a reward for his voluntary submission, Ismá'íl conferred on him the title of 'Baṛá Laṛwaiyá,' and then gave the Sulṭán an account of his success in the following letter—"By the mercy of the Omnipotent and the great virtue of the Sulṭán, Kámrúp has been conquered, and Rájá Kámesar has been forced to pay homage; spoils and tribute have been taken from him and are sent herewith to your highness." As soon as the Sulṭán heard of this great triumph, he was overcome with joy, and showered praise on Ismá'íl, whom he rewarded with robes of honour and with a horse, sword, and belt, all adorned with rich embroidery.

* Which would have broken his caste and made him a Moslem.

From this time tribute was regularly levied from the Rájá without fresh opposition, and the country remained in peace and the people were happy and contented.

While affairs were in this state, Bhándasí Rái, the Hindú commander of G'hoṛág'hát applied to Ismá'íl for leave to build a fort on the frontier of the country, and his request was granted; but as he envied his benefactor and wished to get rid of him, he deceived him and was at last the cause of his ruin. He sent a false information to the king saying that Ismá'íl had entered into an offensive and defensive alliance with the Rájá of Kámrúp, and intended to set up an independent kingdom. The infidel inflamed the king's displeasure by every art of intrigue and insinuation, and ultimately succeeded in persuading him to despatch an armed force against the champion of the holy faith.

Ismá'íl at first determined to trust to his own valour, and succeeded in several times repulsing the king's soldiers, but at last, as he desired to share his companions' fate and to join them, he gave himself up.

He was beheaded by order of the Sulṭán on Friday, 14th Sha'bán, 78 [*i. e.* 878, or 4th January, 1474]. Before the execution, he had sent all his men away; only Shaikh Muhammad, an old faithful servant, would not leave him, and he is the ancestor of the guardians of Ismá'íl's tomb at Káṇtá Dúár. When the head reached the king, he came to know the jealousy of the cunning Hindú and his own rashness and stupidity, and he burst into tears. He made arrangements to have it buried in the royal family vault; but Ismá'íl appeared to him and told him that the head was to be buried in Káṇtá Dúár.

Ismáí'l's whole property was confiscated, and all his movables were sent both from Madáran and the district of G'hoṛág'hát to court. The convoys of the treasures were, indeed, frightened by the appearance of Sháh Ismá'íl, and wished to give him back all his wealth; but the spirit told them that God's favour was sufficient for him, and again disappeared to continue even after death the war with the infidels. Wherever the convoys halted on their way to court, a dargáh arose. At last, the head was buried at Káṇtá Dúár, and the body was interred at Madáran, and both places have since become famous resorts for pilgrims. Bárbak Sháh himself and his Begam visited Madáran and also Káṇtá Dúár, and conferred on both tombs valuable gifts.

Persian Text.

Persian Text of the Risálat ush-Shuhadá, or 'Book of Martyrs,' containing an account of Ismá'íl Ghází of Kántá Dúár, Rangpúr.

بسم الله الرحمٰن الرحيم

الحمد للّٰه الّذي نزّل الكتاب علىٰ عبده و نوّر قلوب العارفين بنور جماله و زيّن صدور العاشقين باسرار كماله - كه آب رو بر رخ انبيا و اوليا از يک نم درياي عنايت اوست و سرخ‌روئي شهداي كبرا از صمصام خون‌آشام هدايت او - مقدّرے كه نقطهٔ گوي زمين را به تهِ دايرهٔ چوگان ارادت كشيده - كارسازے كه پيراهنِ شب بمقراضِ خيّاطِ روز بر دوش صبح دريده * و صلواتِ طيّبات بران شاهِ كونين معركه‌آراي قابِ قوسين - كه طوطيِ زبان در شكوستانِ دهان تا دورِ زمان در نعتِ او شكرريز است و بلبلِ طبعِ نغمه‌سرا در بوستانِ فالله اوحىٰ الىٰ عبده ما اوحىٰ در مدحِ او ترنّم انگيز است - و علىٰ آله و اصحابه و تبع تابعيه باد *

اما بعد ميگويد كمينهٔ كمترين اقلّ العبادِ باري فقير پير محمّد شطّاري ابنِ عاقل محمّد فرخاري كه بتاريخِ بيست ودوم شهرِ شعبان‌المعظّم بروز دوشنبه بوقتِ چاشت سنهٔ الف و اربعين و اثنين (۱۰۴۲) بروضهٔ شهيد الشهدا بندگيِ حضرتِ شاه اسمعيلِ غازيِ عربي با جماعهٔ يارانِ دردمند نشسته بودم كه بندگيِ شيخ كبير و شيخ لطيف و شيخ مسعود و ديگر خادمانِ روضهٔ متبرّكهٔ موضعِ كانتادوار و جلا مقام خارقِ عادات و مناقبِ حضرتِ شاه اسمعيلِ غازيِ عربي من اوّله تا آخره اظهار نمودند و حقيقت از من و عن بيان مي‌كردند * چون سخنِ صاحب‌دلان قبول داشت بحكمِ آنكه سخنِ مردان بدل و جان است دستِ سخنِ گريبانِ

دل یاران گرفت - و دل یاران مایل برین شد که یك رسالهٔ مناقب معظّمه تصنیف باید نمود و تالیف باید کرد که در اعادهٔ سخن مردان فایدهٔ دل و جان است - الغرض که بزرگان گفته اند

عمر بخشنودیٔ دلها گذار * تا ز تو خشنود شود کردگار

حضّار مجلس اشارهٔ باین ذرّهٔ حقیـــر کردند و التجا بدین فقیر آوردند* اگرچه این قلیل البضاعت استطاعت آن نداشت لیکن برای رعایت خاطر اصحاب و خشنودیٔ دلهای احباب این چند کلمهٔ شکسته بسته جمع نمـود در عهد خلافت حضرت صاحبقران ثانی شهاب الدّین محمّد شاهجهان پادشاه غازی خلّد اللّه ملکه و سلطانه *

باش تو سلطان بسر تخت شاد * تا که بود آب و زمین خلق و باد

امید که فضلای زمان و بلغای دوران بر حرف سهو این کم‌مایه قلم اصلاح رانند و جریمه‌اش‌را عفو فرمایند که اللّه ساترالعیوب و غفّارالذّنوب است* این رساله را رسالة الشهداء مسمّی نمود * التّائید من اللّه الودود *

راویان اخبار و ناقلان آثار چنین روایت کنند که در قرون ماضیه در بلدهٔ معظّم مکهٔ مبارك سیادت و نجابت پناه خلاصهٔ اولاد رسول اللّه بندگیٔ حضرت شاه اسمعیل غازی ظهور یافت * راغب بر طاعت و عبادت حق پرستی قیام نمود وشب و روز بتلقین و تدریس مشغول می بود * و با یکصد و بیست دانشمند علما صحبت میداشت - و امام و استاد ایشان مولانا حسام الدّین عربی بود و مولانای مذکور برادرے داشت که مولانا کمال الدّین نام داشت * روزے در محفل منیف خود در تلاوت قرآن مجید و فرقان حمید بآیت و الشهداء عند ربّهم لهم اجرهم و نورهم رسید * مرغ جان از قفس تن بقرب رحمان میخواست پرید و بامید

فیسقیهم ربّهم کام جان شیرین و سیراب گردانیـــد * همدران زمان در مجلس شریف ایشان یکے از دانشمندان این حدیث سرور کاینات خلاصهٔ موجودات احمد مجتبی محمّد مصطفی صلّی اللّه علیه و سلّم بخواند قال النّبي صلّی اللّه علیه و سلّم انّ اللّه تعالی اکرم الشّهداء بخمس کرامات لم یکرم بها احدا ولا ایّاي- احدها انّ ارواح جمیع الانبیاء یقبضها ملک الموت و انا کذلک و ارواح الشهداء یقبضها اللّه تعالی- و الثّانیة انّ جمیع الانبیاء یُغسلون بعد موتهم و انا کذلک و الشهداء لا یغسلون بعد موتهم - و الثّالثة انّ جمیع الانبیاء یکفنون بعد موتهم و انا کذلک و الشّهداء لا یکفنون- و الرّابعة انّ الانبیاء یسمّون بالموت و انا کذلک قالوا مات محمّد و الشّهداء یسمّون احیاء لا یسمّون بالموت بل قالوا احیاء - و الخامسة انّ الانبیاء یشفعون یوم القیامة و انا کذلک و الشّهداء یشفعون کلّ یوم الی یوم القیامة * ترجمهٔ حدیث این است بدرستي و راستي که خداي تعالی بزرگي داد شهیدان را به پنج بزرگي که نکرد آن بزرگي با هیچ یکے از پیغمبران و نه بر من * یکے ازان اینکه بدرستي و راستي که ارواح جملهٔ انبیا قبض میکند ملک الموت و روح مرا نیز همچنین و ارواح شهیدان قبض میکند اللّه تعالی- دوم اینکه بدرستي که جملهٔ انبیاء را غسل میدهند بعد موت و مرا نیز همچنین و شهیدان را غسل نمیدهند - سیوم اینکه بدرستي که جملهٔ انبیا را کفن دهند و مرا نیز همچنین وشهیدان را کفن نمیدهند - چهارم اینکه بدرستي که نام نهند انبیارا که مُردند و مرا نیز همچنین گویند مات محمّد و شهیدان را زنده خوانند ممرده گویند شهید شدند - پنجم اینکه بدرستي که جملهٔ انبیا شفاعت کنند در روز قیامت و من نیز همچنین و شهید شفاعت

کنندہ است همه زمان تا زمانِ قیامت * حق سبحانه تعالی مر شهیدان را چنین کرامت بخشیده و بر جملهٔ انبیای خویش چنان معزّز ساخته تا این دولتِ ابـدي کرا رو نماید و این سعادتِ سرمدي نصیبِ که آید * چون بندگی حضرتِ مخدوم شاه اسمعیل غازي این حدیث بشنید گویا خدنگ شهادت بود که در جگر خاید - سلسلهٔ شوقِ شهادت در جنبش آمد و کششِ جذبهٔ من جذبات الحق عنانِ طاقت از دست ربود * بزبانِ حال بخدمتِ استادِ خود مولانا حسام‌الدّینِ عربي عرض نمود که ای استاد و ای یاران شما دعا کنید و توجّه نمایید تا حق تعالی مرا دولتِ شهادت روزي کند و بدین آرزو رساند که بوسعِ إمکانِ خود سعي کردن و قدم در راهِ طلبِ مقصود نهادن شرط است چنانچه در خبر آمده از سیّد کونین محمّد مصطفی صلّی اللّه علیه وسلّم السّعي منّي و الاتمام من اللّه * ترجمهٔ حدیث این است سعي کردن از من و تمام شدنِ آن از اللّه تعالی * و حدیثِ دیگر قال النّبی صلّی اللّه علیه و سلّم من طلب شیأ و جدّ وجد * ترجمه کسیکه طلب کرد چیزے را وکوشش کرد بیافت * پس مولانا حسام‌الدّین فرمودند که مرا هم آرزوي شهادت است - چون شما درین کار روی مي آرید و مشغولِ این مهمّ اهمّ می‌شوید ما نیز موافقِ رای شما ایم - مگر حق سبحانه تعالی مرا نیز بدولتِ شهادت برساند * و مولانا کمال‌الدّین که برادرِ حقیقي مولانا حسام‌الدّین اند گفتند بنده نیز درین امر موافقِ رای شما است * آنگاه جملهٔ دانشمندان که حضّارِ مجلسِ شریف و محفلِ منیف بودند همه بیک زبان و بیک اتّفاق گفتند که ما همه را همین شهادت

آرزوست و بجز این در جهان هیچ آرزو نداریم • فی الجمله مولانا حسام الدّین عربي و مولانا کمال‌الدّین و جمیع دانشمندان بحضرت شاه اسمعیل غازي عهد بستند و قرار کردند و فاتحه خواندند که هرجا که کفر باشد باید رفت و با کفّار جنگ باید کرد و در راه حق شهید باید شد چنانچه حق سبحانه تعالی در کلام کریم خود خبر میدهد • آیت • ولا تقولوا لمن یقتل فی‌سبیل اللّه اموات بل احیاء و لکن لا تشعرون • ترجمه این است نگوئید مرکسے را که کشته شد در راه خدا مرده بلکه زنده اند و لیکن شما خبر ندارید • بحکم این آیت صادق و نصر واثق کمر اجتهاد در میدان استقامت بستند و از تایید این حدیث قال النّبی صلّی اللّه علیه و سلّم که موت الغرباء شهادة پای همّت در شهراه شهادت نهادند- و از مقام مالوف خود دل برداشتند و شدّت سفر را اختیار کردند - منازل و مراحل بریدند - دشت و صحرا طي مي‌نمودند تا پس از مدّتے بسرحدّ ملك عجم رسیدند و ازانجا روي در بلاد هند نهادند • بعد از طیّ منازل بسیار و مراحل بیشمار در بلدهٔ معظّم و مکرّم لکهنو [لکهنوتی] رسیدند که دار الخلافت و پاي تخت سیّد سلطان باربک‌شاه بود • سلطان عادل بود با مال و ملك بسیار و لشکر بیشمار چنانکه چندین پادشاهان و تاجداران در تحت امر او بودند • و در ملك این پادشاه دریائے بود که نام آن دریا جهتیا بهتیا میگفتند - هر سال برشکال چنان زور مي‌آورد که تمام ملك را خراب میکرد • عرض بسمع بندگان پادشاه کردند که هر سال در برشکال از کثرت آب دریا بسیار ملك تلف

می‌شود - مردمان نیز هلاک می‌شوند • بندگانِ حضرتِ سلطان فرمودند که بر روی این دریا جسر راست کنند و هر قدر مبلغ که خرچ شود دریغ ندارند • پس بحکمِ فرمانِ حضرتِ پادشاه معماران و خشت‌پزان و کاریگران و درودگران و آهنگران و غیره از هر ملک طلب کردند و بر سرکار برگماشتند • هرچند ایشان از سنگ و آهن و چوب و خشت و گچ محکم وراست می‌کردند در آمدنِ برشکال بران خراب می شد • همبرین نهج مدّتِ هفت سال بر آمد - این مهمّ صورت پذیر نمی شد • روزے حضرتِ سلطان با ندیمان و وزیران مشورت کردند که این کار چون بانْصرام رسد و این مهمّ بکدام تدبیر بر آید که بروی این دریا جسر استقامت پذیرد ومستحکم شود • آخر برین قرار گرفت که در شهر و لشکر ندا باید کرد تا هریك از خاص و عام و از خرد و بزرگ بر سرِ دریا حاضر آید و پادشاه نیز یک سبد پر از گل و گچ بدستِ خویش بر سرِ پل اندازند تا بموافقتِ حضرتِ پادشاه ظلّ اللّه هریك از خرد و بزرگ یکیک سبد پر از گل و گچ اندازد - مگر ید اللّه فوق ایدیهم دست‌برد نماید که ببرکتِ دستِ یکے از بندگانِ خدای تعالی این پل مرمّت یابد و استحکام پذیرد • چون این ندا در گوشِ حضرتِ شاه اسمعیلِ غازیِ عربی رسید گفت پادشاه را عرض کنید که مقصودِ شما از جمع کردنِ مردم بستنِ پل است مارا سه شبانه‌روز مهلت دهند بعون اللّه تعالی ما خواهیم بست - این کار متعلّق بما است شما دلِ فارغ دارید • سلطان بحال قبول کرد - فرمود اوّل شما بگوئید که کیستید و از کجا آمده اید و چه مطلب دارید • ایشان گفتند ما از مکّهٔ مبارك ایم - بارادهٔ نوکریِ آمده ایم • پادشاه فرمود

خوش آمدید و صفا آوردید - این خانهٔ شماست - در سرکار ما باشید - خدا خوب خواهد کرد * شاه اسمعیل غازي گفت ما را مهلت دهند که بعنایت الٰهي اوّل این خدمت بجا آریم - بعده در سرکار نوکر شویم * پادشاه گفت همچنان باش * پس شاه اسمعیل غازي با جملهٔ یاران خود در سه شبانه‌روز جسر جهتیابهتیا محکم و استوار کرد بنوعے که فیل و اسپ و سوار و پیاده همه بآساني میگذشتند * این خبر بسمع اقدس بندگان حضرت پادشاه رسید- بسیار تعجّب کرد و خوشحال شد * حضرت شاه با یکصد و بیست دانشمند بعزّت تمام در سرکار خود نگاه داشت- پس هر مهمّے و مشکلے که پیش آمدے از ایشان بانصرام رسیدے *

مدّتها برین برآمد - آخر الامر راجه گجپتي که در ملک مدارن بود از انقیاد و فرمان‌برداري درگاه بندگان حضرت پادشاه روگردان بود * اکثر افواج پادشاهي که بران راجه تعین مي‌شد شکست و هزیمت مي یافت براي آنکه راجهٔ مدارن با لشکر انبوه حصارها بر سر کوه داشت * هیچ مهمّ پادشاهی رو براه نمی‌شد چراکه قلعهٔ روئین داشت - لشکر پادشاهی با وجود کثرت مغلوب بود * آخر برین اتّفاق افتاد که شاه اسمعیل لشکر را با جماعت شریف خودش بر سر راجه گجپتي باید فرستاد - نزدیک است که در رنگ پل جهتیا بهتیا این مهمّ هم بانصرام رساند که مردم با برکت و صاحب کرامت است - آرے * بیت *

از کران تا بکران لشکر ظلم است و لے * از ازل تا بابد فرصت درویشان است

الغرض برین قرار یافت که شاه اسمعیل لشکر با همه اصحاب خود

روانهٔ ملکِ مدارن شود * راجه گجپتی چون این خبر بشنید بسیار بخندید که چندین افواجِ قاهرهٔ هزیمت خوردند - از این مردمِ درویش چه خواهد شد * هرچند رانی راجه را بجد شد که باین مردم جنگ مکن و مقاومت منمای که ایشان لشکرِ خدا اند و پر عظمت اند و مجادلت و محاربت نمودن بایشان موجبِ تفرقه و پریشانی است نصیحت سود نه کرد - لشکر آراست * بر سرِ جنگ آمد - صفها کشیدند - لشکر از هر دو جانب روی در میدان آورد - بمجرّد رسیدنِ یکدیگر جنگ واقع شد - عالم عالم کفّار کشته شدند و از کشتگان پشتها بر آمد * شاه اسمعیلِ غازی تیغ از نیام بر کشید واسپ در میدان جهانید و حمله بر کفّار آورد - هرکرا بر سر میزد در خون می غلطانید و هرکرا در کمر میزد چون خیار دو نیم می کرد * بیت *

دو دستی چنان میگذارید تیغ * کزو خصم را جان نیامد دریغ

هزیمت در لشکرِ گج پتی افتاد - راجه گریخت و رو بفرار آورد * عاقبت دستگیر کردند و بدرگاه بندگان حضرت پادشاه آوردند * چون راجه دولتخواه نبرد و بےآدبیهای بسیار ازو بوقوع آمده بود بقتل رسانید * فتح عظیم روی نمود - شادیانه بنواختند و وجهِ هر یک از دلاورانِ کارزار مضاعف نمودند و عمر بخوشدلی میگذرانیدند چنانچه بزرگے میفرماید * بیت *

عمر بخشنودی دلها گذار * تا ز تو خشنود شود کردگار

چون چندگاه برین برآمد فلکِ نیرنگ ساز بازی دیگر انگیخت و شاطرِ منصوبه باز منصوبهٔ دیگر باز کرد چنانچه بزرگے درین معنی فرماید * بیت *

فلک ناقه را زین سبک رو کند * که هر روز شب بازئ نو کند

کند هر زمان صلح و جنگے دگر * خیالے نماید برنگے دگر

آورده اند که در ملکِ کامروپ راجهٔ کامیسر نام بود - با عظمتِ لشکر واستعدادِ ملک نظیرِ خود نداشت - بغایت بلندقدر و عالی شوکت بود * بارها افواجِ پادشاهي ازو شکست خورده و هیچگاه دستِ فوقیّت بر و بسر نبرده * سلطان شاه سمعیلِ غازي را بران راجه تعین نمود و رخصت بکارزار او فرمود * چون راجه کامیسر شنید بخندید و بغرورِ دلاوري و ملکگیري تحمّل نکرد و لشکرکشي فرمود - پیش‌دستي نمود - بسرحدِ ملکِ خود آمد و جنگ انداخت - کارزارِ عظیم واقع شد بسیار کفّار بجهنّم رفت * جنگِ مغلوبه شد - صد و بیست دانشمند بشهادت رسیدند * حضرت شاه إسمعیلِ غازي فرمودند که سرحدِ ملکِ اسلام تا سنتوس است - این شهیدان را همانجا دفن‌کنند * آخر در سنتوس دفن کردند * إنّا للّٰه و إنّا الیه راجعون * بیت *

هر که آمد بجهان نقشِ خرابی دارد * در خرابات مپرسیدکه هشیارکجاست

حضرتِ شاه إسمعیلِ غازي و یک خواهرزاده محمّد شاه نام با دوازده پیک ماندند * خواهرزاده را حکم کردند که با دوازده پیکان قلعهٔ بارهپیکه راست کن - قلعهٔ بارهپیکه ازان دوازده پیکان تیار نموده شد * این اسم با مسمّی ازان است که قلعهٔ بارهپیکه میگویند * آنگاه این قلعه حوالهٔ محمّد شاه کرده خود بدولت و سعادت دو کروه پیشتر رفت در جلا مقام که تمام زمین آبگیر بود * دستِ دعا بدرگاهِ حضرتِ جلّ و علا برداشت و مناجات از رویِ عجز و نیاز بحضرتِ کریم کارساز کرد که یا بارِ خدایا قدرے زمین در اینجا پیدا کن که برو سجده توانم کرد تا که صلوٰة الفرض که اداي

آن بر ذمّهٔ هر یک از مومنان فرض است بوسع إمکان بجا توانم آورد *
چون تیرِ دعا از شایبهٔ ریا مصون بود بهدفِ اجابت مقرون گردید *
همدران زمان در مشاهده معاینه دید که گویندهٔ غیب از پردهٔ اریب
چنین خبر میدهد که ای شاه إسمعیلِ غازی یک سپر پر از خاکِ پاک
بدستِ خویش درمیانِ این جا مقام انداز وقدرتِ اللّٰه تعالی به بین *
همچنین کرد - در جا مقام جائی واقع شد * آنجا قلعه بست و بدولت و
سعادت متمکّن شد * امروز نیز آن مقام خاص‌تر برآمدِ حاجاتِ عوام و
خواص است * آنگاه ازانجا فرمان بجانبِ راجه کامیسر فرستادند - بدین
مضمون نوشتند - اوّل بنامِ خدای تعالی و مدحِ خلفدانِ حضرتِ رسالت‌پناه
صلّی اللّٰه علیه وسلّم - بعده نوشتند که ای راجه کامیسر بدانی و آگاه
باشی که من آن شاه اسمعیل لشکرام قبل ازین که بخدمتِ حضرتِ
سلطان رسیدم در سه شبارروز پلِ جهتیا بهتیا بقوّتِ قادر برکمال بستم که
مدّتِ هفت سال بر آمده بود و بسته نمی شد - بعد ازان پادشاه مارا بر
سرِ گچ‌پتی که تجمّلِ لشکر و افزونیِ خزانه و دعویِ داوریِ او در تمامِ
ملکِ بنگاله مشهور و معروف است نامزد کرد - اورا نیز بعنایتِ اللّٰه
تعالی زنده بدست آوردم و چندین هزار کافران را از تختهٔ تخت به تختهٔ
تابوت رسانیدم - چون طالعِ شومِ او قابلیّتِ سعادتِ اسلام نداشت او نیز
در جهنّم رفت وملک او بر باد شد چنانچه این اخبار در اطراف واکنافِ
عالم شایع و پراگنده است - بگوشِ تو هم رسیده باشد - اکنون سیّد سلطان
باربک شاه مرا بر تو نامزد کرده است - باید که با مال و خراج بدرگاهِ
ما حاضر آئی تا ترا پیشِ پایهٔ تختِ شاه برم و در حقِ تو جان‌بخشی کنم

و ملکِ تو بر تو مقرّر و مسلّم داشته آید - و اگر ازین سخن عدول آری تو
دانی و روزگارِ تو داند * چون نامه مرتّب شد بقاصدِ تیزگام دادند که برو
بدستِ راجه کامیسر بده * قاصدِ تیزگام بدربارِ راجه کامیسر رسید و بملازمانِ
راجه گفت که راجه را خبر کنید که قاصد فرمانِ عالیشانِ حضرتِ
شاه اِسمعیلِ غازي آورده است * حجّابان بشتافتند - آمدنِ آن قاصد
اعلام نمودند * راجه گفت که درون در آید * چون قاصد درون در آمد نامه
بدستِ راجه داد * راجه کامیسر بمجرّد خواندن از دست بینداخت و در
غضب شد و همچون مار بر خود به پیچید و گفت برو - در حقِ تو جان بخشي
کردم - قاصد را کشتن شرط نیست - امّا شاه اِسمعیل لشکر را بگو
که میانِ من و تو جنگ است تا دبو کرا بزرگ نماید و حکم که راست
آید - من آن گچ پتي نیم که تو اورا نابود ساختي واز پای در انداختي -
الحال جمعیّتِ لشکرِ تو نمانده است همه یارانِ تو کشته شدند و بدرجهٔ
شهادت رسیدند - از تنها سوار چه آید و این کلیدبسته چگونه کشاید *
حضرتِ شاه اِسمعیلِ غازي فرمود اللّٰه معی مارا قوّت است از کرمِ حق
سبحانه تعالی و اللّٰه المستعان علی ما تصفون و نیزهٔ نصرتِ ما از امدادِ
نصر من اللّٰه و فتح قریب سربلند و فیروز است * الغرض چون تیغ
زرین پشتِ آفتاب در نیامِ مغرب واکردند و کمانِ سپیدتوزِ ماه از قربانِ مشرق
بیرون آوردند لشکر از دو جانب فرود آمد * راجه کامیسر نیز در خواب
شد * همان زمان حضرتِ شاه اسمعیلِ غازي اسپ سوار تنها در لشکرِ راجه
آمدند و از دروازهٔ شهر درگذشتند تا به تختِ او رسیدند * دیدند که راجه

کامیسر با زنِ خود در بسترِ ناز غنوده و از هستیِ خود بےخبر افتاده که النّوم اخ الموت گریبان‌گیرِ وقتِ او گشته * درین اثنا شاه اِسمعیلِ غازي از اسپ فرود آمد و موی سرِ هر دو یک‌جا بسته و تیغِ همان راجه از نیام کشیده بر سینهٔ او نهاد و پان از پاندانِ او خورده راجهٔ مذکور را بدین نهج گذاشته بر اسپِ خود سوار شده بمقامِ خود آمد * چون روز شد راجه و رانی هر دو بیدار شدند مو یهای سرِ خود را بایکدیگر بسته دیدند و تیغِ برهنه بر سینهٔ خود دیدند * راجه از هیبتِ این احوال بترسید که این که بود که چنین دلیري بر من کرد و در محلّ من آمد * چون در صحنِ خانه نظر کرد دید که اسپِ سرگین و بول کرده است تعجّب رویداد و لرزه بر اندامش افتاد که درین چنین جایگاه پرنده پر زدن نتواند اسپ چون آمد و آدمي چه کند * حارسان و نگاهبانان را طلب کرد که شما کجا بودید که امشب در محلّ ما کسے بیگانه آمده است - علامتِ اسپ ومرد هر دو یافته می‌شود * دربانان بجانِ خود بترسیدند و عرض کردند ای راجه درین چنین جائے طایرِ وهم را پر زدن مشکل است سوار چگونه آید و آدمي‌را چه یارا که خود را درینجا رساند و ما همه هر یک بر دروازهٔ در بسته بیداریم و کلید بر دست داریم و در همچنان بسته است * راجه را نیز در دل آمد که راست میگویند لیکن برای احتیاط هریك از دربانان را تنبیه و تادیب بواجبي کرد که من بعد چنین غافل نباشید پیوسته حازم و هوشیار باشید * چون روز بآخر رسید زنگي شب نقشِ دیگر کشید و چادرِ ظلماني بر صحرا و آباداني انداخت - راجه نیز در خواب شد

درین بستان‌سرای پر نظاره * نمانده باز جز چشمِ ستاره

شبِ دوم نیز همان دید آنچه در شبِ اوّل دید- بیشتر ترسید و بجان هراسید * شبِ سیوم نیز همچنان دید که در شبِ اوّل و دوم دیده بود * هراس در دل افتاد مضطرب شد و گفت که این کارِ آدمي نیست مگر کسے را که حق سبحانه تعالی برگزیده است با او بهیچ وجه برابري کردن و مقاومت نمودن ممکن نیست * چون شب بآخر رسید نغمهٔ خروسِ سحرخیز در ترنّم شد و مرغ و ماهي و مور جنبنده و جهنده از خوابِ دوشین برآمد و نیّرِ اعظم بساطِ نوراني بر ملک و ملکوت انداخت * شاه اسمعیلِ غازي نیز بیدار شد و جملهٔ اصحابِ خود را دلاسا و التفات فرمود و هریک را بنواخت و گفت کسے باشد که پیشِ این راجه کامیسر برود و اورا پیشِ من بیارد * جملهٔ یاران خدمت کردند و التماس نمودند هرکرا حکم شود فرمان برداریم * درین اثنا وکیلِ راجه کامیسر بیامد و عرض نمود که راجه میگوید اگر مرا جان‌بخشي شود تا در خدمت بیایم و پاي حضرت به بینم * شاه جیو فرمودند در حقِ تو جان‌بخشي کردم- خاطرِ خود جمع دار- هیچ دغدغه و هراس در دلِ خود راه ندهي * پس راجه کامیسر با مال و خراجِ شاهانه بخدمتِ شاه اسمعیلِ غازي بیامد و در پا افتاد و گفت مارا پس‌خوردهٔ پانِ خود دهند که شما بجاي دیوتاي مائید * چون الحاحِ بسیار کرد و صدقِ عقیدهٔ خود ظاهر نمود حضرت پس‌خوردهٔ پان از دهانِ مبارکِ خود عنایت فرمودند * بصد هزار آرزو تناول نمود- بمجرّد خوردن لعاب از دهنِ او رفتن گرفت و کف از لب برآمدن خواست - ازان روز باز به لروا راجه خطاب شد * آخر الامر بدرگاهِ پادشاه عرض نمود که بکرمِ اللّٰه و از توجّهِ

حضرتِ پادشاه بلادِ کامروپ فتح شد و راجه کامیسر در دست آمد و طوقِ انقیاد در رقبهٔ جان نهاد و چون بندگان مطیع بخدمت ایستاد • پس آنچه مال و خراج برای سلطان آورده بود همه همراهِ عریضه بخدمتِ حضورِ پادشاه روانه نمود • سلطان از استماعِ این فتحِ اعظمِ ایشان بسیار خوشحال شد و جملهٔ ارکانِ دولت و اعیانِ حضرت آفرینها بر شاه اِسمعیلِ غازي کردند و سلطان خلعتِ خاص مع اسپِ زرّین‌زین و شمشیر و کمربندِ مرصّع شاه اسمعیلِ غازي را فرستاد و عنایاتِ شاهانه مبذول فرمود • بعده سال بسال خراجِ پادشاهي ادا مي‌شد و ملک معمور گشت و اهلِ بلاد دعا بر جانِ پادشاه میگفتند و عمر بخوش‌دلی میگذرانیدند •

في الجمله بهاندسي رای که در تهانهٔ گهوڑاگهاٹ بود بعرضِ شاه اسمعیلِ غازي رسانید که شاهجیو سلامت شما بدولت و سعادت در جلا مقام قلعه کردید و قلعهٔ بارهٔ پیکه را نامزدِ خواهرزاده فرمودید - بنده در خدمتِ شما است و دولت‌خواهِ بندگانِ حضرتِ شاه - و قلعه ندارم • قلعهٔ گهوڑاگهاٹ مرتّب کرده به بهاندسي رای سپردند که در خدمتِ پادشاهي سرگرم باشد • درین اثنا • بیت •

فلک بر زبان راند رازے دگر • درین پرده بنواخت سازے دگر

بهاندسي لعین دشمنِ دین از روي بغض و عداوت تخمِ کین در دلِ خود نشاند - بدرگاهِ حضرتِ سلطان نوشت که شاه اسمعیل براجه کامیسر یکانگي و یک‌جهتي پیدا کرده است - معلوم نیست که رفته رفته چه ثمره ظاهر شود و عاقبت چه بر دهد • پادشاه ازین سخن بے پا شد و نهالِ

بدگماني در دلِ خود نصب کرد مگر از راهِ معيني خبرنداشت - اتّفاق
کرد که اين مرد را از بيخ و بن دور بايد کرد * ترسيد و لشکر کشيد - فرمود
که هان سرِ شاه اسمعيلِ لشکر بياريد * سپاه تعين شد - آوردن نتوانستند *
آنگاه پادشاه بدستخطِ خاص نوشته فرستاد که شما بيائيد * ازانجا که
عقيدهٔ ايشان بآن پادشاهِ عاليشان درست بود با دو سه خدمتگار بدرگاهِ
معلّی برسيد * چون نظرِ پادشاه بايشان افتاد حکم بقتلِ ايشان کرد *
هرچند که قصد کردند قتل ميسّر نشد و شمشير کار نکرد * آنگاه حضرتِ شاه
اسمعيلِ غازي را معلوم شد که پادشاه خواهانِ سرِما است - گفت ای
ياران و ای محبّان خونِ ما ناحق زمين قبول نخواهد کرد زيراکه من
سيّدزاده ام * راوي روايت ميکند که در تمامِ عمرِ خويش گاهے لفظِ سيادتِ
خود بر زبان نرانده بود مگر آن روز که شهيد شد * بعده گفت که اگر ارادهٔ
پادشاه بسرِ ماست بيائيد و سرم ببريد * و همه اصحابِ خود را
رخصت نمود مگر شيخ محمّد - خادمِ قديم بود - گفت که من نخواهم
رفت - خادمي و جاروبکشي و چراغ‌سوزيِ آستانهٔ شريفِ شما خواهم
کرد * الحال هم اولادِ شيخ محمّد بروضهٔ کانّادوار و جلا مقام خادمان و
مجاوراند * آخرش نطع آوردند و بجائے پاک بگسترانيدند * پس بتجديد
وضوکرد و دوگانهٔ حق بجا آورد و سرِ مبارک بسجده نهاد * بتاريخِ چهاردهم
شب برات روزِ جمعه سنهٔ ثمان و سبعين [و ثمانمايه] بدرجهٔ شهادت
رسيدند * إنّا للّه و إنّا اليه راجعون * سرِ مبارکِ شهيد الشّهدا از تن جدا
کردند و پيشِ پادشاه بردند * چون صدقِ وفا و صفاي باطنِ آن شهيد الشّهدا
معاينه کرد دستِ تغابن بدندانِ حسرت گزيدن گرفت و افسوسِ بسيار

کرد * سود نداشت و فرمود که سرِ مبارك در روضهٔ بزرگانِ ما دفن کنید که قبرِ ما نیز همانجا خواهد بود تا فایض البرکات از سببِ این شهیدِ اکبرِ پاك فیض برساند * آخر پادشاه‌را درمعاینه نمودند که هرچند شما سعي و کوشش خواهید کرد ظهورِ ما اینجا نخواهد شد که ظهورِ سرِما در کانّادوار و جلامقام است و ما همانجا خوش کرده ایم - شما آهنِ سرد مکوبید - ارادهٔ اللّه برین است * القصّه لشکر و افواجِ پادشاهي آمد و همه مال و اموال بسرکارِ پادشاهي بردند - آنچه متاع و مال و اسباب از نقد و جنس در مدارن بود و هرچه در نواحیِ گهوزاگهات بود از سرکارِ حضرتِ شاه اسمعیلِ غازي بسرکارِ پادشاهي روانه شد * در اثنای راه با مردمِ خزانه از هردو جانب شاه اسمعیلِ غازي ملاقات کردند - ایشان ترسیدند و همه خزانه آنچه بود پیشِ حضرتِ شاه اسمعیلِ غازي کردند * حضرتِ شاه فرمودند که اگر پادشاه این خزانه و مال و خواسته طلب کرده است همه ببرید مارا عونِ عنایتِ الٰهی بسنده است * بعده حضرتِ شاه اسمعیلِ غازي اکثر مُواس و کفّار را غارت نمود و صد هزار کافران را علفِ تیغِ خود ساخت * بهرجا که ساعتے قرار گرفتند و مقام نمودند روضهٔ متبرّکه ظاهر شد - خاکِ آن زمین توتیاي کحلِ دیدهٔ اهلِ یقین گشت چنانچه بزرگے میفرماید * بیت *

بهرسرِ تربتِ ما چون گذري همّت خواه * که زیارتگهِ رندانِ جهان خواهد بود

الغرض سرِ مبارکِ حضرتِ شاه اسمعیلِ غازي در مقامِ کانّادوار آمده قرار یافت و تنِ مبارکِ ایشان در مدارن آسوده زیارتگاهِ عالم شد و حاجاتِ خلق اللّه برآمدن گرفت و مردمان از هرجا برای زیارت

و حاجت آمدن گرفتند * و این اخبار بسمع مبارک پادشاه رسید * پادشاه نیز با بیگم صاحبه و افواج و لشکر اوّل بمدارن رسیدند - بعده از انجا بمقام کانّادوار آمده بروضهٔ متبرّکهٔ حضرت شاه اسمعیل غازي معاینه کردند و کشف کرامات آن حضرت مشاهده نمودند * و موضع کانّادوار و جلامقام برای خدمات آستانهٔ شریف بنذورات مبذول داشته خود بدولت‌خانهٔ خویش عزم نمودند * تا بحدّیکه امروز نیز هر که بحسن اعتقاد و نیّت پاک در مقام شریف آید و در روضهٔ متبرّکه بحضور دل شب زنده دارد چون ساعتے سر بسجده استخاره آرد همدران لحظه مقصود خواهد معاینه نمود و اگر احیانا خطورے و قصورے بخاطر او راه یافته باشد بشب جمعهٔ دوم مُراقب احوال خود شود - امید که تیر نیاز بهدف اجابت مقرون آید بمنّه و کمال کرمه - چنانچه بتاریخ عشر رجب المرجّب سنه ۱۴ احد و اربعین ملك العلماء افضل الفضلاء بندگی حضرت میان شیخ عبد اللّٰه سرهندي ابن بندگي حضرت قطب الاقطاب مخدوم شیخ بهاء الدین زکریّا القریشي الملتاني چنین میفرمایند که در شب جمعه بروضهٔ متبرّکهٔ حضرت شاه اسمعیل غازي براي زیارت برفتم - شب بحضور دل نگذشت - بلهو و لعب گذرانیدم و هیچ معاینه ظاهر نشد - باز در دل حضور نمود - باین ذره حقیر ظاهر کردند که از بےادبیهای ما معاینه ظاهر نشد - آخر شب جمعهٔ آینده در خواب معاینه دیدم که لشکر عظیم است هزاران هزار فیل و اسپ سواران غازي چابك سوار عالم عالم روي زمین گرفته و یك فیل خرد بران یك مرد بزرگ پیش صف لشکر است که همه ساز فیل مرصّع دارد بجانب ما از کمال مهرباني روبرو شد *

گریختم - هرجا که میروم با شتاب آن فیل همان طور بر روی ما ایستاده است - هرچند می‌روم فیل بر سر حاضر است * یك شخص بزرگ می‌فرماید که آهسته دوید یا شتاب فیل حکم جان دارد و همه جا میّسر باشد - امّا شما هیچ هراس بدلِ خود راه ندهید - این فیل کسے را آزار نمي دهد همچنین می ترساند و عبرت خوردن می نماید * همان زمان چشم وا شد - معاینه دیدند * وقتِ سحر این قطعه در مدحِ حضرتِ شاه اسمعیلِ غازي عرض نمودند * قطعه این است

دلا کن عرض از عجز و نیازي * بحضرت شاه اسمعیلِ غازي
بیا در روضه اش از روي اخلاص * دلِ خود صاف کن از لهو و بازي
بآبِ دیده شوئي آستانش * بمژگان روبي آنجا جانمازي
بدرگاهش برو از سر قدم کن * زکوتاهي مکن دستِ درازي
چو خاك ار پست گردي برخیالش * شود در هردو عالم سرفرازي
شهِ غازي که هر جایش مقام است * همائي می کند در شاهبازي
چو اسمٰعیل زیر پاي (1) زمزم * روان کرده براي کارسازي
جهانِ کفر غارت شد ز تیغش * شهادت یافته در ترك تازي
کراماتش بهر جا جلوه‌گر شد * چه هندستان و چه ملكِ حجازي
شبِ جمعه بشارت یافت خضري * ز لطفِ شاه اسمعیلِ غازي
ز مدحش یافته فقرِ حقیقت * برون شد زود از کوي مجازي

(1) In allusion to Ismá'íl, son of Abraham.

CORRECTION. On page 220, line 9 from below, *for* Ismá'íl conferred on him the title of 'Barú Larwaiyá,' *read according to p. 236, line 2 from below,* Ismá'íl conferred on him the title of 'Larwá Rájá,' *i. e.* the spittle-Rájá, from the Hindústání لار (लार), spittle, saliva.—THE EDITOR.

LETTER *by* COL. E. T. DALTON, C. S. I., *Commissioner of Chutiá Nágpúr, on a large picture representing the conquest of Palámau in* 1660 *by Dáúd Khán, Aurangzíb's General.*

You no doubt recollect my telling you of the great picture of the attack of the Palámau Fort by Dáúd Khán, Aurangzíb's general. The picture is preserved as an heirloom by Dáúd's descendants at Dáúdnagar, in South Bihár, and I entered into various negociations with divers persons to obtain a copy; but not succeeding I had almost given it up, when to my surprise Ahmad Husain, the Agent of the Qází of Palámau, a connection of the Dáúdnagar family, came to my house with the picture.

Mr. Peppé had to photograph it in pieces; for it is 30 feet in length by about 12 feet in breadth, done on cloth. I send a plan of the whole on a reduced scale omitting the figures, and the following description, which should be read with the account of the battle given in Vol. XL. of the Journal, for 1871, p. 127.

The picture represents the camp of Dáúd Khán on the 16th Rabí' II, and the entrenchment of the enemy and the different positions from the first attack on the Chero position by Tahawwur Khán, which opened the fight rather sooner than Dáúd had intended, to the final capture of the Fort and flight of the 'Gawárs,'* as the enemy is contemptuously called, on the 27th Rabí' II, 1070 (20th December, 1660).

The first division of the picture shows Dáúd's entrenched camp, an oblong enclosure. On two sides, the front and right, large guns are in position; to the rear of numerous small tents in the enclosure is a row of pavillions, with banners in front of them, in the following order:

* The word *Gawár* (گوار) is to be distinguished from *Gáwar* (گاور). The latter word is a corruption of *Káfar*, the Persian pronunciation of the Arabic *Káfir*, 'an infidel'; and it is further corrupted to *Gabr* (گبر), in which form it is often applied to the Pársís or fireworshipper (Guebres). The historians of Timur's reign use *Gabr* even for 'Hindús.'

But *Gawár* is used by Muhammadan historians as an equivalent for 'wild aboriginal tribes,' and hence for 'thieves and cattle-lifters,' in which sense it is entered in native Dictionaries. *Vide* also Badáoní I, 85, 168, 234; and Dowson, V, 193, note 6.

A similar term is the word *Muwás* or *Muwásá* (مواس and مواسا), who are no doubt the "Musis" of Dalton's Ethnology (pp. 154, 221, 230, 231, 280). They are mentioned in Badáoní I, 228, 252, 262, 326; II, 376; *vide* also Journal, Bombay Geogr. Society, II, 55. Badáoní generally calls them *Muwás i be-muwásá*, i. e. 'the heartless Muwásis.' THE EDITOR.

Left Wing.—*Black and yellow banner.*		*Two white banners.*
Rájá Bihrúz.		Shaikh Tátár.
		Shaikh Ahmad.
	Centre.—*White banner.*	
	Dáúd Khán.	
Right Wing.—*Banner with embroidered border.*	*Three-tailed banner golden.*	*Red-bordered banner.*
Muhammad Záhid,	Mírzá Khán.	(colour eaten away)
Bakhshí of Bihár.		Tahawwur Khán.

The advance of the army from the fort is in the same order. The banners are thus displayed three times, (1) in the camp; (2) on elephants during the advance; (3) close to each chief in action.

It is said in the *'Alamgírnámah* that the Cheros met this advance of Dáúd's on the 16th by issuing from the Fort and taking up an intrenched position about half a *kos* from the imperial camp. This is represented in the picture by a straight wall across the picture with three *burjs*, or bastions, on which, as well as on the curtain works, guns are mounted, pointed at the camp of the imperialists.

It is said that hostilities were suspended whilst the commands of the emperor were communicated to Pratáb, the Chero Rájá, *viz.*, that he must not only submit, but become a Muhammadan; but Tahawwur Khán could not be restrained, and without orders from Dáúd, he made an attack from the right on the enemies' left. This is shewn in the picture.

In front are the three divisions of the army, the sirdárs leading, *all on foot;* next come the horses of the sirdárs, enormous brutes, each followed by an elephant on which is borne the sirdár's banner, and then the led horses of the imperialist cavalry. The third line of banners with the advance indicates the position of the different chiefs in the action; and their names are also given. Dáúd Khán is in the centre. He is dressed all in white, except his stockings, which are red, and wears a white turban and tunic and white shoes. But the group of Dáúd and his immediate attendants is drawn on a bit of cloth inserted as a patch in the great picture, and it is said that this portion of the original drawing met with some accident necessitating a reproduction. However, Dáúd's two nephews are represented near him similarly attired and armed. He and one of his nephews have bows, arrows, shield and sword. Another has a matchlock, and one of Dáúd's attendants holds his master's firelock as if offering it to him, whilst the general is drawing a bow, evidently not at a venture, as he looks stern and determined, and the enemy are close to him. The imperialist forces show a decided mixture of races. Some are of dark brown complexion, some lighter brown, and others fair as Europeans. The costume varies. There are regulars and irregulars in the imperial army, both bowmen and matchlockbearers, the

regulars distinguished by turbans with stiff feathers and dressed of some figured cloth, and shoes high over the instep with long thongs behind to assist in pulling them on, and the men are all bearded. The bows of the imperialist chiefs are all of the Cupid or Apollo shape, lip-curved, whilst not few, both of the enemy and of the dark skinned portion of Dáúd's army, are of a simple curve, such as we still see in the hands of Kols, Gonds, and other hilltribes. The dark imperialists are as insufficiently clad as the majority of the Cheros are represented to be; and their martial ardour is roused by drums precisely similar to those now used by the Kols, whilst the regulars of the imperial army are inspired by the 'trumpets pealing note,' the trumpets as big as the men who blow them. They have also kettledrums and trumpeters on camels. There is no reason why Kols should not be found in the ranks of Dáúd's army, as the Kols had on previous occasions helped the Emperor; and in one obscure corner of the picture outside the entrenched camp of Dáúd, we find 'the Zamíndár i kán i almás,' 'the Lord of the diamond mine;' and who could he be if not the Nágbánsí Rájá? In the portion of the picture representing the attack, the Rájá of the diamond mines appears valiantly leading the troops on the extreme right of the line. This is a position assigned by the Muhammadan historian to Shaikh Çafí, whom I have not been able to identify among the belligerents.

On the left, but somewhat in front of the Imperial camp, a range of hills is represented, from which the Chero camp behind their entrenchment is commanded. On the centre of these hills four great guns are mounted, and a note indicates that they were placed by Dáúd to enfilade the enemy. This is just as it is described by the Muhammadan historian. The losses of the imperialists were chiefly due to the fact that the outworks of the enemy were higher than those of Dáúd, whose camp was at the foot of the hill. Dáúd, therefore, occupied a hill which overlooked the position of the enemy, and erected a battery which caused much damage.

"On the 27th of the same month, the enemy left their position and withdrew to the banks of the river near the fort." It is clear from the narrative as it proceeds that they took up an entrenched position in a range of hills, running parallel with the river, with passes through them. This is shewn. A conventional drawing of hills going right across the picture, and dividing it into two equal parts, exhibits the second position of the Cheros, and represents them engaged with the imperialists. The Cheros are not shewn in their first position, as the space behind their entrenchment was reserved by the artist for a good pictorial display of the imperialists advancing on the second position, after the Cheros had abandoned the first.

The action represented is where "Dáúd attacked the trenches which the Zamíndár had erected along the river;" but judging from the picture

(and from the ground, which I have been over), 'fortified position' could be substituted for "trenches'—a line of hills with breastworks in different places and passes barricaded. (I have had myself to attack precisely similar positions when engaged against the very same people.)

I find from the picture as from the annals that Shaikh Tátár and Shaikh Ahmad, sons of Dáúd's brother, with their contingents, several imperial Mançabdárs, and the sons of Rájá Bihrúz, attacked on the left, and forced the passes held by the enemy. The *élite* of this portion of the imperial army, a body of handsomely dressed matchlockmen, have seized a hill on the extreme left, which enfiladed one of the passes, and they are represented as keeping up a brisk fire on the disordered Cheros, whom they had dislodged. The whole portion is, indeed, shewn as captured by the imperialists; and from this part of the ground their arrows and matchlock balls are dealing destruction on their enemies, who are seen some without heads, others fleeing with arrows in their backs, but some still holding the ground between the hills and the river.

The annals tell us that Dáúd was induced to remain in the position he had gained, leisurely to make arrangements for the protraction of the siege, but he could not restrain his men; "they pursued the enemy, crossed the river after them, and commenced an attack on the fortifications." Before morning he had completed the conquest of the fort, and the Chero Rájá fled to the hills behind it. The river is represented by a band of green right across the picture (blue in my sketch), with queer shaped obstructions of a darker colour; but as we are informed by the notes in Persian that the first is a *river* (the Oranga), and that the second represents rocks, it answers as well as if it had been most artistically delineated. The Chero Rájá's fort, drawn rather elaborately *in plan*, comes next, and the picture ends in a map of great wooded hills, into which the Rájá retreated.

The Chero host is for the most part portrayed holding their ground, but in sad plight between the hills from which they had been dislodged and the river. The Chero cavalry were evidently posted in reserve in the bed of the river, a very respectable body, as well mounted as their foes: but many are galloping up and down the sands of the river in a purposeless manner, some badly wounded. They are all with one or two exceptions of fair complexion and dressed as Hindústánís; and amongst the Chero footsoldiers there are a number of fair complexioned and well dressed men, shewing that in those days, as at present, there was a considerable sprinkling of Aryans amongst the Palámau population; but the majority are black with only a loin cloth or bathing drawers style of costume, and bare heads and bare feet, bows as above described with only one curve and plenty of arrows, besides which some have spears, and some swords and shields. The proportion of matchlockmen to bowmen is small, but even the imperialists are shewn to have more of the latter than of the former.

The artist has not altogether failed to grasp some of the ethnic characteristics of the Palámau aborigines. The black men have all receding chins and foreheads, and are probably Kharwárs.

Dáúd's flank movement was apparently the only piece of strategy employed. Strong as he was in cavalry, he might have easily cut off the retreat of the Rájá to the hills beyond the Fort; but I dare say his intelligence department were at fault. It is noticeable that the imperialists did not advance their guns when attacking the second position; they were left at their place and no field artillery was employed.

I send two photographs of Palámau Fort.

Note on the site of Fort Ekdálah, District Dínájpúr.—*By* E. Vesey Westmacott, C. S.

(With a Map.)

The first indication of the site of Ekdálah, which I communicated in my letter published at page 95, Proceedings, As. Soc. Beng., April, 1874, was given to me by Mr. Reily, Manager of the Chanchol estate in the district of Máldah, who told me that he had come upon a tract of high ground, where numerous bricks and old tanks betokened the site of an ancient city, and that the people called the name of the place Ekdálah. I took the opportunity of being at Churámon, in Dínájpúr, to ride over the ground in the direction indicated, eastward at a place called Salímpúr, or 'Chilumpoor,' and Sayyidpúr, but my search was unsuccessful. A subsequent study of the inch to the mile map showed me a village, called to this day Ekdálah, a little to the north-east of the ground I had gone over, east of the river Chírámaṭí and five miles, not one, from the 'Nawábí rastah.' Doctor Buchanan, in his 'Account of Dinagepoor,' published by Mr. Montgomery Martin under his own name as part of the second volume of his 'Eastern India,' page 640, writes as follows:

"About a mile and a quarter west from the Baliya is a very large tank, "called Molan-dighee," the Tank of the Lotus, "which is nearly choked "with weeds. The only tradition concerning it is, that it was dug by a "princess—Ranee—and that a miracle was necessary to procure water. "About a mile and a quarter further west is Gor-dighee, Gurh-dighee," the Tank of the Fort, "the water of which has extended about six hundred yards "north and south, and four hundred yards east and west, and which, of "course, is a Hindoo work. A considerable portion of it has now so far "filled up, that it is cultivated for rice. About twelve hundred yards west "from this tank is another, called Alta Dighee, which extends nearly to the

"same dimensions, but is placed with its greatest length from east to west, "and therefore is a Mahomedan work. Between these two tanks are the "ruins of Borohátá, which are very large heaps or mounds, that consist in "a great measure of bricks. In many places, the foundations of walls may "be traced, and even the dimensions of the chambers. All these chambers "are of a small size, owing to which they may have resisted the attacks of "time better than more spacious apartments. They are chiefly situated in "the southern division of the town, called Kootee-baree." (Kootee, 'a masonry building.')

"In this part are some small tanks that have evidently been entirely "lined with brick. In the centre of the ruins are indubitable traces of a "small square fort, which has been surrounded by a double wall of brick, "and an intermediate ditch. The ruin to the north of this fort is almost "entirely without the trace of regular form, but the quantity of bricks "which it contains is great. At its northern extremity is the monument "of a Mahomedan Saint, Peer Bodol Diwan, which is built of brick."

The village of Ekdálah, or Ekdálo, is only half a mile from the north-west corner of the most westerly of the three tanks, and the ruined fort described by Doctor Buchanan about a mile and a half to the south-east of it. The two large Muhammadan tanks were, no doubt, surrounded by buildings, and I see nothing extraordinary in the whole fortified city taking its name from one of the villages included in its circumference. On the other hand, it may be that the name Ekdálah originally included a larger tract than the Mauza', to which it is now confined. I do not know when I may be able to visit the site, but the mention of a Dargáh leads me to hope I may find inscriptions I have no doubt this was the place of which Mr. Reily spoke to me, though four miles further east than he thought, nor have I any doubt as to its being the Ekdálah of Shams i Siráj and Ziyá i Baraní. The name Ekdálah, the distance from Paṇḍuah, the two great tanks whose length, running east and west, proves them Muhammadan, the remains of brick buildings, the fort, the third tank called 'The Tank of the Fort,' and the widespread inundations to the west of it, all seem to me to point to this conclusion.

I can find no trace of the name Ázádpúr, mentioned as another name of Ekdálah.

Besides Ilyás Sháh and his son Sikandar Sháh, who successfully defended Ekdálah against the emperor Fírúz Sháh, Husain Sháh seems to have made it his permanent residence, (footnote, Stewart's Bengal, page 111), and every year made a pilgrimage on foot from Ekdálah to the shrine of the Saint Quṭb at Paṇḍuah. The distance is about twenty-three miles.

There is another Ekdálah, fifty miles east-south-east from Paṇḍuah, five miles south of the point where the districts of Dinájpúr, Bográ, and Rájsháhí touch one another, but I see no reason for thinking it the Ekdálah of Muhammadan history.

On the Supposed Identity of the Greeks with the Yavanas of the Sanskrit Writers.—By Ra'jendrala'la Mitra.

Were the Greeks the people who were invariably indicated by the term Yavana in the writings of Sanskrit authors? This is a question which has presented itself in some form or other to almost every European orientalist in the course of his researches; and a good deal has already been written on the subject. Colebrooke, Prinsep, Wilson, Schlegel, Lassen, Weber, Max Müller, and others have contributed, each from his own standpoint, his quota for a satisfactory solution of the question. There prevails, nevertheless, a variety of opinions about it, and the necessity exists for a reconsideration of the case. The leaning at present is in favour of those who believe the word Yavana to be identical with Ionia, and to mean the Greeks.

The arguments on which this identification rests, are:

1*st*. Similarity of sound of the Greek *Ionia* with the Persian *Yúnán*, the Hebrew *Javan*, and the Sanskrit *Yavana*.

2*nd*. The use of the word *Jona*, the Páli form of the Sanskrit Yavana, to indicate an Ionian Prince.

3*rd*. References made in Sanskrit astronomical works to foreign treatises on astronomy, which, it is presumed, must have been Greek.

4*th*. The intercourse of the Indians with the Greek successors of Alexander in North-Western India.

None of these arguments, however, is of a character to suggest the inference proposed, much less to establish it as a positive historical fact. They all take for granted false majors, and consequently lead to erroneous conclusions. What is required to be proved is, not that the Sanskrit word Yavana has been used to indicate the people of Greece, but that it means the Greek race only, and no other. This has not yet been done; the arguments above set forth taken in their broadest sense do not establish this; and, with one exception, no European orientalist has asserted it. The exception refers to Dr. H. Kern, formerly a professor of Queen's College, Benares, who, in the Preface to his edition of the Brihat Sañhitá, states: "That the Yavanas originally denoted the Greeks and only the Greeks will appear from the sequel. To assert that Yavanas (in ancient times) may denote any kind of people under the sun is so wonderful an assertion, that one ought to have some reasons given why the Hindus should give the name of Ionians to nations who were no Ionians, nor had anything in common with Ionians. It is not so strange that after the conquests of the Islám, Muhammadans were called Yavanas. The Yavanas were the foremost, the most dreaded of the Mlechas, (? Mlechchhas) so that Yavana and Mlecha became synonymous. When the

Muhammadans trod in the steps of the Greeks, they became the chief Mlechas, consequently Yavanas. Yavana, however, never denotes an Arab as such, neither formerly nor now-a-days; it is never a name for a *nation*. The only *nation* called Yavanas were the Greeks."* To what extent this assertion is founded on fact, and how much on mere hardihood of assertion, will be evident from the following remarks:

Of the arguments above set forth, the first is by far the most taking with the public. The similarity of sound of the four words quoted is so close, that it cannot but produce an impression in favour of the theory that they are identical, and have a common meaning; but it is at the same time the weakest; for modern philology does not recognise phonetic similitude to be of any use in an argument of this kind. The similitude must be supported by satisfactory proof of the relationship of the roots from which the words are derived, before it can be used as an argument of any weight in support of their identity. But even after the identity of the roots from which the words in the different languages have been produced is proved, the question would remain open, as to how far the secondary meaning of those words had always been the same everywhere, and until that can be done, no definite conclusion can be arrived at. It is necessary, therefore, to look into the history of the words in the different languages in which they occur, before any attempt can be made to prove that they have always indicated one single nation and no other.

Now, the oldest form of Ionia is "Uinim," which, on the monuments of the Ptolemies, is supposed to be used "to designate the Greek people;"† but in older records, such as the monuments of the eighteenth dynasty under Tutmosis III, and IV, and Amenophis III, the same term occurs to indicate the foreign subjects of the Pharaohs, *i. e.* races other than Egyptians. The term is represented by a group of six symbols, of which the three upper ones, representing papyrus plants, signify Northern or Lower Egypt, and the three lower ones, representing baskets, mean "all," which is "a comprehensive designation of the people settled in different groups and bands."‡ Putting the two significations together, the natural inference is, that the term or group of symbols was used to indicate foreigners settled in Egypt, the bulk of whom were maritime people from the Ionian isles and the sea-board of Asia Minor, *i. e.*, Greeks, Phœnicians, and others. Curtius supposes that the Greeks alone were always meant§; but to apply the term exclusively to the Greeks, it would be necessary to show that at

* Brihat Saṁhitá, p. 32.

† Curtius, Hist. Greece, Ward's Translation, I, p. 45.

‡ Ibid., *loc. cit.*

§ Ibid., p. 46.

the early period of Egyptian history when the term was used, the Greeks themselves bore the name of Uinim, or else the explanation would be against such a deduction. This, however, cannot be done. Down to the time of Homer, the common name for the true Greeks was Achæans, or Argives, or Hellenes, not Ionians, and nowhere in the Greek language is the term Uinim to be met with ; and such being the case, it would be unreasonable to argue that their specific and particular name then was Uinim. Probably they were indicated by that name by the Egyptians in the later records of the Ptolemies and of Sesonchis, the Shishak of the Old Testament, but only in common with others and not specifically.

The term Ionia is derived by the Greeks from Io, the priestess of Hera with whom Zeus fell in love, and whose transformation into a cow and subsequent ramblings over various parts of the earth, particularly along the shores of the Ionian Sea, to which she gave her name, form so interesting a story in Greek mythology. The true interpretation of the myth remains yet untold; but it suggests the idea of the descendants of Io being a mixed race of the Greeks with some of their neighbouring nations ; and in support of this theory, I may cite two versions of a story related by Herodotus, in which the principal personages, such as Zeus and Hera and Argos and Hermes, of the Io myth, are changed into mortals, and the myth resolved into a successful attempt on the part of certain Phœnician traders to abduct Greek damsels.

The first version of the story was narrated to Herodotus as a Persian tradition. According to it, certain Phœnician traders "freighting their vessel with the wares of Egypt and Assyria, landed at Argos, which was then pre-eminent above all the states included under the common name of Hellas. Here they exposed their merchandise, and traded with the natives for five or six days ; at the end of that time, when almost everything was sold, there came down to the beach a number of women, and among them the daughter of the king, who was, they say, agreeing in this with the Greeks, Io, the child of Inachus. The women were standing by the stern of the ship, intent upon their purchases, when the Phœnicians, with a general shout, rushed upon them. The greater part made their escape, but some were seized and carried off. Io herself was among the captives. The Phœnicians put the women on board their vessel and set sail for Egypt."*

The second version is attributed to the Phœnicians, who "deny that they used any violence to remove Io to Egypt ; she herself, they say, having formed an intimacy with the captain, while his vessel lay at Argos, and, perceiving herself to be with child, of her own free will accompanied the Phœnicians on their leaving the shore, to escape the shame of detection and the reproaches of her parents."†

* Rawlinson's Herodotus, I., p. 122. † Ibid, I., p 125.

It is not at all necessary for my purpose here to enquire which of the two versions is the true one; in either case we have a very prosaic and matter-of-fact solution of a highly romantic myth; and few will, I imagine, be disposed to doubt that the myth is only a poetical embellishment of a very common occurrence in primitive states of society, and that the so-called descendants of Io are the mixed descendants of sea-faring men of various nationalities on the western coast of Asia Minor with an occasional trace of Greek blood in them, and that trace derived, in most instances, from the maternal side; for the practice of carrying away Greek slave girls by piratical traders was common in the early history of Greece. The Greeks themselves, in early times, did not recognise them as their descendants or members of their race, and could not, therefore, be supposed to have assumed the term Ionian as their race name. Homer was well aware of the myth of Io; for he assigns to Zeus the epithet 'Αργειφόντης or 'Argos-slayer' to indicate that part of the myth which says that Argos, as the emissary of Hera, too carefully watched the movements of Io in her bovine form, to prevent Zeus from restoring his lady-love to her human shape, and was ultimately destroyed by him;* but he does not call the Greeks Ionians, except in the line:

ἔνθα δὲ Βοιωτοὶ καὶ Ἰάονες ἑλκεχίτωνες. (Il. N. 685.)

In commenting on this line, Arnold says, "These are the Ionians of Greece, particularly the Athenians, whom Homer, however, calls nowhere else by this name. This whole passage to 700 offers matter for grave doubts, which cannot be treated of here." Schlegel condemns the passage as "a later interpolation;" and Lassen, "in confirmation of this hypothesis," observes "we have to bear in mind that the Ionians formed a very small portion of the Greek tribes that left Attica (Herod., I. 146; Pausanias, VII. 234), and secondly that Ion does not trace his descent immediately from Hellen, which Doros and Aiolos do, but from his son Xuthos, and that the notices regarding his origin and that of his brother Achaios are of various nature."† "With the Greeks themselves," he adds, "the name is post-Homeric, and came probably only into use after the Greek tribes occupied the islands and Asia Minor, and must have arisen from a general term used by the older inhabitants of the land for those who, unlike the Aeolians and Dorians, did not bring an ethnic name with them, but were formed by the union of several peoples with different names."‡

The Hebrew equivalent of the Greek Ἰάονες, with the digamma "ΙάFονες, is *Javan*, which under the form of Jehohanan is equivalent to Ἰωναν and Ἰωαννας. In the Septuagint Ἰωαννής is used in the place of the

* Keightley's Mythology of Greece, 361.

† Indische Alterthumskunde, 736.

‡ Ibid., *loc. cit.*

Hebrew Jehohanan יהוחנן, and there is little doubt that it gradually simplified itself into Johannes, Joannes, John, and Jack.* That the word is closely connected with the Greek Ἰών, Ἰαν, Ἴανες, etc., there is no doubt. According to Cruden's Concordance, the word means "clay" or "dirt," *i. e.*, the dirty race, formed of the outcastes of various nationalities; or "he that deceives, or makes sorrowful," a very appropriate designation for a race which was noted for its piracy. But comparing it with the Sanskrit *yuvan*, Zend *jawán*, Latin *juvenis*, the true meaning, according to Lassen, would seem to be "young," in contradistinction to Γραιχοί, "the old"—as the Hellenes called themselves—the new Mulattoes of the Isles and the Asiatic Coast as opposed to the original inhabitants of the Greek peninsula. If this be the true origin, it must date from pre-historic times.

In the Old Testament, the word occurs several times, as a proper name of an individual, of a race, of a country, of an empire, and of a town. In Genesis x. 2, 4, we find it as the proper name of one of the seven sons of Japheth, and father of Elishah, Tarshish, Kittim, and Dodanim. The statement is repeated in, Chronicles, i. 5 and 7. The Rev. Mr. Hewlett, in one of his annotations to the Bible, says, "Japheth seems to have been the same with Iapetus, whom the Greeks own to have been their father; nor do they know any name of greater antiquity: which made them give it to decrepit persons, as Bochart has observed. *Older than Iapetus* was with them a proverbial saying."† In Isaiah, where the Lord threatens to send those who fail to come to the fold of the Church, or "to escape of them, unto the nations, to Tarshish, Pul and Lud, that draw the bow, to Tubal and Javan, to the isles afar off,"‡ the name of a country is obviously intended. In explanation of the passage, Hewlett says, "Tarshish denotes the eastern parts; Pul and Lud the south; Tubal and Javan, the north; and the isles afar off, the west." What the particular country intended is, is not mentioned, and the direction given does not lead to Greece. Dr. Smith takes the several names to be the representatives of the Gentile world.§ As the name of a tribe or race we find it in Ezekiel xx. 13. Javan and Tubal and Meshech are said there to be the merchants who traded with Tyrus. But the ancient practice of using the names of countries for those of races may be appealed to in support of the Rev. Mr. Hewlett's supposition of their being

* The Babylonian god Oannes, Ὥαννης, who is described by Berosus to have come from the Erythrean Sea, with a fish's body, a human head under cover of a piscene one, human lower limbs, and a fish's tail, is supposed to have its name connected with the term Javan. Cory's Ancient Fragments, 243, apud Inman's Ancient Faiths in Ancient Names, II. 400.

† Hewlett's Bible, Gen. x. 2.

‡ Isaiah lxvi. 19.

§ Dictionary of the Bible, I., p. 935.

names of countries, and that the terms are tribal names, derived from the locale of the several peoples mentioned, the first signifying Ionia or Greece. Bearing, however, in mind the early age when the book of Ezekiel was written, one would be disposed to fancy that the Phœnicians were the people meant and not Greeks, who then certainly had very little maritime traffic of their own, and depended a good deal on Phœnician traders for supplies of foreign goods. In Daniel viii. 21, x. 20, xi. 2, the references are accepted by the authorised translator of the Bible to mean the Macedonian empire, and in Zechariah x. 13, to be the Græco-Syrian empire. Again, in Ezekiel xxvii. 19, according to Dr. Smith, "a town in the southern part of Arabia (Yemen) whither the Phœnicians traded, is indicated." He adds "the connexion with Uzal decides in favour of this place rather than Greece, as in the Vulgate. The same place may be noticed in Joel iii. 6, the parallelism to the Sabæans in verse 8, and the fact that the Phœnicians bought instead of selling slaves to the Greeks (Ez. xxvii. 13,) are in favour of this view."*

Commenting upon the different passages above cited, Dr. Smith observes: "From a comparison of these various passages, there can be no doubt that Javan was regarded as the representative of the Greek race; the similarity of the name to that branch of the Hellenic family with which the Orientals were best acquainted, *viz.*, the Ionians, particularly in the older form in which their name appears (Ἰάων), is too close to be regarded as accidental, and the occurrence of the name in the cuneiform inscriptions of the time of Sargon (about B. C. 709) in the form of Yavnan or Yunan, as descriptive of the isle of Cyprus, where the Assyrians first came in contact with the power of the Greeks, further shows that its use was not confined to the Hebrews, but was widely spread throughout the East. The name was probably introduced into Asia by the Phœnicians, to whom the Ionians were naturally better known than any other of the Hellenic races, on account of their commercial activity and the high prosperity of their towns on the western coast of Asia Minor. The extension of the name westward to the general body of the Greeks, as they became known to the Hebrews through the Phœnicians, was but a natural process, analogous to that which we have already had to notice in the case of Chittim."†

It is unquestionable that in the later writings of the Hebraites and in modern Hebrew the word is used to indicate the Greeks, the meaning extending from the Asiatic Greeks or Ionians to the Hellenes of Europe; but from the passages above quoted, it is far from being conclusive that in the early times of the Genesis the Greeks of Europe were known to the Jews, and there is very little to show that Greek colonists had extended to the

* Ibid, 936. † Ibid., p. 935.

coast of Asia Minor and the islands near it to such an extent as to constitute a distinct nationality. Dr. Smith admits that "it can hardly be imagined that the early Hebrews themselves had any actual acquaintance with the Greeks," and the inscription of Sargon to which reference has been made above, says that in 708 B. C. "the seven kings of the *Yaha* tribes of the country of *Yavnan* (or *Yúnan*), who dwelt in an island in the midst of the Western sea, at the distance of seven days from the coast, and the name of whose country had never been heard by my ancestors, the kings of Assyria and Chaldæa, from the remotest times, &c."* If Yavnan had never been heard of before 708 B. C. in Assyria and Chaldæa, it is not to be supposed that it was better known to the Hebrews in the time of Moses at least seven centuries before that time.

In later Greek there is doubtless ample evidence to show that Ionia formed a part of the Greek empire; but it is worthy of note that in the oldest passages the term Ionians to imply Greeks is put in the mouths of Persians: thus, in Æschylus, Atossa, when stating that her son had gone to ravage the land of the Ionians, says,

ἀφ' οὗπερ παῖς ἐμός στείλας στρατὸν
Ἰαόνων γῆν οἴχεται πέρσαι θέλων· (180.)

But the lady here evidently confounded the Ionians of Asia Minor with the Spartans. In another passage in the Persians we have—

διὰ δ' Ἰαόνων χέρας (565.)

Paley says that the Athenians are meant by the Ιαόνων.

In the Acharnians of Aristophanes, the pseudo-Persian ambassador abuses an Athenian in bad Greek, *i. e.* Persian Greek, thus:

Οὐ λῆψι χρῦσο χαννοπρῶκτ' Ἰαοναῦ.

In explanation of this, a commentator, according to Lassen, says that the Barbarians call all Greeks Ἰάονες.

On the whole, these instances from the ancient Egyptian, Hebrew, Assyrian, and Greek authors clearly show that Ionia or Javan has not enjoyed a persistent individuality of meaning at all times; that originally it meant foreigners; then Eurasians or mixed tribes of Europeans and Asiatics; then Asiatic Greeks; and lastly Greeks generally, whether Asiatic or European. Under these circumstances, it is not to be supposed that the Sanskrit Yavana, even if we accept it to be originally the same with the Hebrew Javan and the Persian and Arabic Yúnán, should possess a greater fixity of sense than did its prototype. On the contrary, the most probable conclusion would be, that it was more loosely used in India than in Persia, Arabia, and Syria. Whether such was really the case or not, will be evident from the remarks which follow.

* Rawlinson's Herodotus, I., p. 7.

According to some Sanskrit writers, the word Yavana is derived from the root *yu* 'to mix,' implying "a mixed race, or one in which no distinction of caste is observed."* It may be taken to mean mulattos, such as the story of Io would indicate the original Ionians to have been; but no Sanskrit lexicographer has suggested it. Others derive it from *ju* "to be swift," a swift or intrepid race.† Others, again, take it to be a derivative of *yoni* "the womb' (of the cow of Vasishtha), or a race born for the purpose of opposing the armies of Vis'vámitra. The first radical is the same which occurs in the formation of the word *yuvan* "young," originally *yuva*, and, as already stated, the word may be accepted to indicate the youthful or new race of Asiatic Greeks as opposed to the "Graichoi" or the old race of European Greece. Should this derivation be accepted, it would not be necessary to suppose that the word Yuvan travelled from Asia Minor to India; on the contrary, its similitude with the Latin *juvenis*, Saxon *iong*, Dutch *jong*, Swedish and and Danish *ung*, Gothic *yuggs*, and Zend *jiwán*, would indicate it to be one of those domestic terms which travelled with the Aryans in their various migrations from their common home in Central Asia.

The word, as a tribal designation, seems to have been well known and current in Sanskrit from a very early period. Páṇini, in his great work on Sanskrit grammar, gives it in the form of *Yavanání*, as an example to show the use of the affix *áṇuk* to indicate the writing of the *Yavanas*.‡ This implies that it was a current word at his time, at least nine or ten centuries before the commencement of the Christian era according to the calculation of the late Dr. Goldstücker. How long before that time it was familiar to the Bráhmanic race as a tribal name, we know not; but it may safely be concluded that it was not in the sense of the Greeks, whether Asiatic or European, that it was used by Páṇini and his predecessors. According to the most recent researches on the subject, the art of writing was not introduced into Greece before the seventh century B. C., and Páṇini could not possibly, therefore, refer to Greek writing two or three centuries before its formation. If we accept Professor Max Müller's date for Páṇini, *i. e.* the early part of the sixth century B. C., it would still be presumptuous to believe that Páṇini had come to know of the introduction of writing into Greece so soon after the occurrence. Dr. Goldstücker observes that "it denotes the writing of the Persians, probably the cuneiform writing which was already known before the time of Darius, and is peculiar

* यौति मिश्रयति वा मिश्रीभवति सर्व्वेण जातिभेदाभावात् इति यवनः। युजमिश्रणेऽस्मात् पचिकरणे चण्ट्।

† In this case the word should be written with *j* instead of *y*. When implying a horse, this is the correct spelling; Raghunandana enjoins that even when implying a race of men, the word should also be written with *j* and not with *y*.

‡ Páṇini IV, I, 49.

enough in its appearance and different enough from the alphabet of the Hindus to explain the fact that its name called for the formation of a new word."* In either case, the term Yavana in Páṇini's time indicated, not the Ionian Greeks, but either the Persians or the Assyrians. Professor Max Müller is of opinion that the writing referred to by Páṇini is a Semitic one. He says: "Yavana is by no means the exclusive name of the Greeks or Ionians. Professor Lassen has proved that it had a much wider meaning, and that it was even used of Semitic nations. There is nothing to prove that Páṇini was later than Alexander, or that he was acquainted with Greek literature. In the Lalita Vistara, where all possible alphabets are mentioned, nothing is said of a Yavanáni or Greek alphabet. The Sanskrit alphabet, though it has always been suspected to be derived from a Semitic source, has certainly not been traced back to a Greek source. It shows more similarity with the Aramæan than with any other variety of the Phœnician alphabet.† Yavanáni lipi most likely means that variety of the Semitic alphabet which, previous to Alexander, and previous to Páṇini, became the type of the Indian alphabet."‡ Weber first supposed that it meant "the writing of the Greeks or Semites" (Ind. St. I., p. 144), but he subsequently changed his opinion, and took the word for the writing of the Greeks alone. (Ind. S. IV., p. 89). It was evidently the necessary consequence of the Greek theory which he had then matured. Lassen brings down Páṇini to the time of Chandragupta. But Max Müller and Goldstücker have so clearly demonstrated the pre-Buddhistic antiquity of Páṇini, that nothing further need be here said on the subject.

Manu refers to the Yavanas several times in his code of laws, along with the S'akas, Kámbojas, and other rude tribes on the borders of India; but he affords no clue to their identification. In one place (X. 43, and 44) he states, however, that "the following races of Kshatríyas, by their omission of holy rites and by seeing no Bráhmans, have sunk among men to the lowest of the four classes: *viz.*, Pauṇḍrakas, Oḍras, and Draviḍas; Kámbojas, Yavanas, and S'akas; Páradas, Pahlavas, Chínas, Kirátas, Daradas, and Khasas." All these tribes, along with several others, are generically named Dasyus, or wild people, who were descendants of the four original castes, mixing promiscuously with each other and neglecting their religious observances.§ Elsewhere these tribes are called Vrátyas or mulattos. The Aitareya Bráhmana, likewise, assigns the name Dasyu to

* Mánava Kalpa Sútra. Introduction, p. 16.

† Lepsius, Zwei sprachvergleichende Abhandlungen, p. 78. Schulze's Conjectures about *Mesnud.* Weber, Indische Skizzen.

‡ Ancient Sanskrit Literature, p. 521.

§ Book X. v. 12 to 24.

these fallen tribes. The word Mlechchha is also applied to these degraded persons.*

The Mahábhárata says: "Other three outcaste classes are the Chaṇḍála, the Vrátya, and the Vaidya, begotten by a S'údra on females of the Bráhman, Kshatríya and Vaisya castes respectively."† In another place it states: "These tribes of Kshatríyas, *viz.*, S'akas, Yavanas, Kámbojas, Dráviḍas, Kalindas, Pulindas, Us'ínaras, Kolísarpas and Máhisakas, have become Vrishalas from seeing no Bráhmaṇas."‡ Elsewhere it describes the Yavanas to be the descendants of Turvashu, the second son of Yajáti, and grandson of Nahusa.§ These descendants were degraded for neglect of filial duty. The tribes in question though degraded were, however, not altogether left out of the pale of Bráhmanical institutions, and Dr. Muir quotes a long passage from the Mahábhárata to show what they were required to do by way of religious observance and social duty.‖

The Vishṇu Puráṇa follows the Mahábhárata very closely, and in describing the boundary of India (Bhárata-varsha) says, "Its eastern border is occupied by the Kirátas, and the western by Yavanas, while the middle is inhabited by Kshatríyas, Vaisyas, and S'údras, engaged in their several fixed occupations of sacrifice, war, trade, &c."¶

Adverting to a story of war between Vis'vámitra and the Haihayas and the Tálajanghás, it adds that the Yavanas were punished by having their heads shaven, a characteristic mark which, according to some, they retained afterwards; but this cannot be predicated of the Ionian Greeks. The Yavanas are mentioned in several other places in the Vishṇu Puráṇa, but not in a way to indicate who they were.

The Vishṇu Puráṇa's location of the Yavanas on the north-western border of India may be accounted for by supposing that the work was written after the occupation of Afghánistán by the Greeks; but the accounts of the Yavanas given in Manu's Institutes and the Mahábhárata refer obviously to neighbouring races, and cannot be connected with the Greeks, whether Asiatic or European. Certain it is that beyond the phonetic similitude of the name, there is nothing to justify the assumption that the works in question intended the Greeks of Asia Minor.

The Mahábhárata, however, has a legend on the origin of certain Yavanas which is of importance in connexion with the present enquiry. Accord-

* Haug's Aitareya Bráhmaṇa. The Mlechchhas were, however, originally a separate tribe like the Yavanas.

† Anusásana Parva, line 2621. *Apud* Muir's Sanskrit Texts, 2nd ed., I., p. 481.

‡ Ibid., p. 482.

§ Ádi Parva. Sec. 85, verse 8533.

‖ Sanskrit Texts, 2nd ed., I., p. 484.

¶ Wilson's Vishṇu Puráṇa, II. 37.

ing to it, "Once on a time Vis'vámitra, who was son of Gádhi, king of Kányakubja (Kanauj), and grandson of Kus'ika, when out hunting, came to the hermitage of Vas'ishṭha, where he was received with all honour, entertained together with his attendants with delicious food and drink, and presented with precious jewels and dresses obtained by the sage from his wonder-working cow (Nandíní), the fulfiller of all his desires. The cupidity of Vis'vámitra is aroused by the sight of this beautiful animal (all of whose fine points are enumerated in the legend), and he offers Vas'ishṭha a hundred million cows, or his kingdom, in exchange for her. Vas'ishṭha, however, replies that he is unable to part with her even in return for the kingdom. Vis'vámitra then tells him that he will enforce the law of the stronger: (6665) 'I am a Kshattríya, thou art a Bráhman, whose functions are austere fervour and sacred study. How can there be any vigour in Bráhmans who are calm and self-restrained? Since thou dost not give up to me, in exchange for a hundred million cows, that which I desire, I shall not abandon my own class characteristic; I will carry away the cow by force.' Vas'ishṭha, confident, no doubt, of his own superior power, tells him to do as he proposes without loss of time. Vis'vámitra accordingly seizes the wonder-working cow; but she will not move from the hermitage, though beaten with whip and stick, and pushed hither and thither. Witnessing this, Vas'iṣṭha asks her what he, a patient Bráhman, can do? She demands of him why he overlooks the violence to which she is subjected. Vas'iṣṭha replies: 'Force is the strength of Kshattríyas, patience that of Bráhmans. As patience possesses me, go, if thou pleasest' (6676. *Kshattriyánám balam tejo bráhmanánám Kshamá Balam Kshamámám bhajate yasmát gamyatám yadi rochate*). The cow enquires if he means to abandon her, as, unless he forsakes her, she can never be carried off by force. She is assured by Vas'iṣṭha that he does not forsake her, and that she should remain if she could. Hearing these words of her master, the cow tosses her head aloft, assumes a terrific aspect, (6680) her eyes become red with rage, she utters a deep bellowing sound, and puts to flight the entire army of Vis'vámitra. Being (again) beaten with whip and stick, and pushed hither and thither, she becomes more incensed, her eyes are red with anger, her whole body, kindled by her indignation, glows like the noonday sun, she discharges showers of firebrands from her tail, creates Pahlavas from the same member, Draviḍas and S'akas, Yavanas, S'abaras, Kanchis, Sarabhas, Pauṇḍras, Kirátas, Siñhalas, Vasas, and other tribes of armed warriors from her sweat, urine, excrements, etc., who assail Vis'vámitra's army, and put it to a complete rout. (6692.) 'Beholding this great miracle, the product of Bráhmanical might, Vis'vámitra was humbled at (the impotence of) a Kshattriya's nature, and exclaimed, 'Shame on a Kshattriya's force; it is the force of a Bráhman's might that is force indeed.' Examining what

was and was not force, and (ascertaining) that austere fervour is the supreme force, he abandoned his prosperous kingdom, and all its brilliant regal splendour, and casting all enjoyments behind its back, he devoted himself to austerity."*

This story is repeated in the S'alya Parva, but with some variations. According to it, the occasion of the quarrel was not a hunting excursion followed by an entertainment and a desire on the part of Vis'vámitra to possess the cow, but a military expedition against certain Rákhasas, when the king's army encamped near the hermitage of the sage, and destroyed the grove around it, and the sage, in a fit of anger, asked the cow "to create terrible S'avaras." "The cow so addressed created men of dreadful aspect, who broke and scattered in all directions the army of Vis'vámitra."†

The story is also given at great length in the first book of the Rámáyaṇa, but there is very little in it to show who the Yavanas were. Created along with the S'akas, they are both described to be radiant, mighty, enveloped in golden armour, dressed in yellow garments, protected with golden armour, and armed with swords and shields.‡

Commentators are of opinion that this story does not refer to the origin of the Yavanas as a race, but only recounts the creation of a particular body of that race for the purpose of overcoming Vis'vámitra. Anyhow it is evident that we have in it, under cover of a romantic story, a tale of a war between some Bráhmans and Kshatríyas, in which the former secured the co-operation of certain of their non-Hindu, or outcaste, neighbours, and it would be absurd to suppose that the Greeks, whether Asiatic or European, ever did come to interpose in such a quarrel. The story refers to very early times and to persons who were authors of some of the hymns of the Rig Veda, and at the time and among them Ionians could not possibly have been known, for then they had not yet settled down into a distinct nationality. It is doubtless remarkable that we have in this tale a reproduction of the Io myth; for we have here the Yavanas produced by a cow even as Io in her bovine metamorphosis produced the Ionians. The coincidence, however, is purely accidental. The rivalry of Vas'ishṭha and Vis'vámitra is repeatedly and prominently adverted to in the Saṅhitá of the Rig Veda, though no mention is there made of the creation of Yavanas to side with any of the contending parties. This rivalry is also noticed in the other Saṅhitás, and likewise in some of the Bráhmaṇas, but without any reference to the Yavanas. The cupidity and oppressive character of Vis'vámitra are the objects of condemnation, and as land and cattle were the principal articles of wealth at that time, and both were indicated by the same term *go*, Puráṇic mythologists

* Muir's Sanskrit Texts, 2nd ed., p. 390.

† Muir's Sanskrit Texts, 2nd ed., p. 393.

‡ Rámáyaṇa, Chapters 51 to 65.

have produced a miraculous cow out of it. The prayer for cattle is common enough in the Rig Veda, and in one place (VII, 18‡) we have "seeking to milk thee (Indra) like a cow in a rich meadow, Vas'ishṭha sent forth his prayers to thee." In several places the rains, or rain-producing clouds, are described as cows, and speech is likewise indicated by the same term. The type of the miraculous all-bestowing cow is, however, given in full detail in two hymns of the Atharva Veda. Both these have been translated by Dr. Muir in his *Sanskrit Texts*,* and I shall quote one of them here. "Prayer *(brahman)* is the chief *(thing)*; the Brahman is the lord *(adhipati)*. From the Kshattríya who seizes the priest's cow, and oppresses the Bráhman, there depart piety, valour, good fortune, force, keenness, vigour, strength, speech, energy, prosperity, virtue, prayer (*brahman*), royalty, kingdom, subjects, splendour, renown, lustre, wealth, life, beauty, name, fame, inspiration and expiration, sight, hearing, milk, sap, food, eating, righteousness, truth, oblation, sacrifice, offspring, and cattle; all these things depart from the Kshattríya who seizes the priest's cow. Terrible is the Bráhman's cow, filled with deadly poison. In her reside all dreadful things, and all forms of death, all cruel things, and all forms of homicide. When seized, she binds in the fetters of death the oppressor of priests and despiser of the gods." The subject of the Vis'vámitra episode is the attempt on the part of a Kshattríya to rob a Bráhman of his cow, and the consequences thereof, and the extract above given, shows clearly and most fully in the form of a denunciation what the author of the Mahábhárata and the Puráṇas have developped into a tale. I feel satisfied that few will doubt the accuracy of this interpretation, and seek to engraft on it the Io myth.

Schlegel, in commenting on the word Yavana in the Vis'vámitra legend as given in the Rámáyaṇa, makes the following remarks: *Yavanorum* nomen satis indefinite usurpari videtur de populis ultra Persiam versus occidentem sitis. De Bactris, quos *V. Cl. Wilso* huc advocat, dubito. At Arabes iam olim ita appellatos fuisse patet ex nomine thuris inde deducto, *yávana*, quod *Amarasinhas* habet Ed. Col. p. 162, d. 30. Post Alexandri Magni tempora scriptores Indi *et Graecos Yavanos dixere*, qui mos iis cum Persis fuit communis. Memorabilis sane est similitudo vocabuli Indici cum Ionum nomine, cuius antiquissima forma fuit Ἰάονες, et digammo restituto IAFONEΣ. Nec tamen hoc nomen est vere Homericum: nam unicus locus, ubi id legitur, (IL. N. 685) manifesto est interpolatus. Cf. *Heynii* et *Knightii* annott. ad h. l. Inde mihi quidem probabile fit, Ionum maiores in ipsa Graecia ante migrationem nondum ita dictos fuisse, vocemque esse barbarae originis; colonos autem longo demum tempore postquam Asiae

* 2nd Edition, Vol. I., pp. 285—288.

Minoris oram insederant, quum a vicinis Lydis ita appellari consuevissent, Ionum nomen sibi proprium fecisse. Traxerunt et alia ex imitatione barbarorum: unde enim nisi hinc epitheton ἑλκεχίτωνες? (Il. N. et Hymn. in Apoll. 147.) Apud Indos contra vocabulum *yavana* est antiquissimum; legitur in Man. Codice, X, 44. Memorantur ibidem praeterea Câmboji, Sacae, Pahlavi, aliique, de quarum gentium situ commentator *Cullúcabhattus* οὐδὲ γρύ. In rebus geographicis plerumque a scholiastis frustra auxilium exspectatur. De *Cámbojis* cf. supra annott. ad VI, 21."*

In the Karṇa Parva, Karṇa, in describing to S'alya the different vile races of mankind with which he had come in contact in different parts of the earth, names the Yavanas, who are said to be 'omniscient and especially heroic.' In the S'ánti Parva, Bhishma, in reply to certain queries of Yudhishṭhira, describes the martial peculiarities of certain races, thus: "The Gándháras and Sindhu Sauviras are most proficient in fighting with many-pointed javelins; the dauntless, vigorous and powerful Us'ínaras are proficient in the use of every kind of weapon, and their might is equal to every undertaking; the Práchyas are unfair fighters, but experienced in elephant fights; the Yavanas, the Kámbojas, and the dwellers on the frontier of Madhurá are proficient in fighting hand to hand without arms; the Dakshiṇátyas fight best with swords and shields."† Of the several races or tribes here mentioned, the Gándháras are the people of Kandahár; the Sindhu-Sauviras are a tribe who dwelt on the banks of the Indus; the Us'ínaras are people to the south of Kandahár; the Práchyas are the eastern tribes of Manipur, Kachhár, Tripura, &c.; the Kámbojas are said to dwell in the north-western frontier of India, their country is famous for its horses, and we have to look for them near the Hindu Kush;‡ and the Yavanas, who are always spoken

* Ramayana Valmicis, I, Part II, p. 168.

† गान्धाराः सिन्धुसौवीरा नखरप्रासयोधिनः।
शाभीरवः सुबाहुतत्सङ्घं सर्व्वपारगं॥
सर्व्वप्रहरणेषु कुशलाः सर्व्वयत्नेषु चाप्यनराः।
प्राच्यामातङ्गयुद्धेषु कुशलाः कूटयोधिनः॥
तथा यवनकाम्बोजा मथुरामभितश्च ये।
एते निर्युद्धकुशला दाक्षिणात्यासिपानयः॥

‡ Schlegel has the following remarks on the Kámbojas:

"*Cámbojam* lexicographi Angli in ipsa India versus septentrionem ponunt, sed falso. Etenim in descriptione plagae septentrionalis, quam quartus Rameïdos liber exhibit, Cámboji post Váhlicos inter varias gentes barbaras nominantur. Cf. Raghu-Vansa, IV, 67-69, ubi Raghus, Sindhu traiecto post *Hunos* devictos demum Cámbojam adit, nobilium equorum patriam. De *Cambaya* urbe ad sinum Gurjaranum non esse cogitandum, multo minus de *Cambodia* in peninsula ultra Gangem, per se patet." Ramayana, Vol. I, Part II. p. 80.

Wilson places the country of Kámboja in Afghánistán. He says, "We have part

along with them, must be their neighbours, probably Bactrians. The word Madhurá is the ancient form of Mathurá, and the people of that place

of the name, or Kambi, in the Cambistholi of Arrian; the last two syllables, no doubt, represent the Sanskrit 'sthala,' 'place,' 'district,' and the word denotes the dwellers in the Kamba or Kámbis country," (Vishṇu Puráṇa, II. 182). Elsewhere he adds: "There is an apparent trace of this name in the Canmujis of Káfiristán, who may have retreated to the mountains before the advance of the Turk tribes." (Ibid., III. p. 292.) This would give us the northern part of Afghánistán for the locale of Kámboja; and it is borne out by the tradition of some of the Kámbojas who now dwell in India. As nothing is known to Europeans of this remnant of the old race, I shall quote here a part of a letter from Bábu Sambhuchandra Mukarji, in which he has furnished me an account of this tribe.

"The Kambohs or Kámbohs," he says, "are a small but very well known even to being notorious-people scattered in many parts of Upper India, from Benares up to the Panjab, and I do not know how far south. There are many families in Audh, and a considerable colony in Rohilkhand, Agra, Delhi and the Panjab. There are both Hindu and Musalman Kamboha,—neither in good odour with the rest of the community to which they belong. By the Hindus, the quasi-Hindu section is regarded as a sort of Pariah tribe, like the Tagas and such like. I call these *quasi*-Hindu, because, though in sense clinging to the hem of the garments of Hindu society among its lowest rank and file, they hardly properly belong to it. Their wealthier members, like those of other low castes, try to be respectable by the only means open, namely, conformity to the usages and ways of the superior castes and demonstrative subserviency to the latter, though as classes they are little inclined to that conformity or to that subserviency. Generally they are independent of Bráhman and Kshatríya influence, and do not pay deference to the leading castes. This may be understood as a protest against the degradation in which they have been kept, but the other low castes—the lowest recognized ones—do not behave themselves in the same manner. I think the mutual attitude of the Kambohs, Tagas, &c., and the rest of the Hindus, is due to the fact of the former being a colony of hardy mountaineers from the West. Confining ourselves to the Kambohs, the attitude is a presumption in favour of their identity with the outcasted extra-Indian, hostile race of Kámboja mentioned by Manu. As we find them, they are a turbulent, stiff-necked, crafty race, and as such, more akin to the Afghans, than any of the meek Hindu races of the plains of India, wherein they have now been settled for generations. From want of sympathy, as well as the strong reflex influence of caste-feeling on Indian Musalmans, the Muhammadan Kambohs are a despised set in Muhammadan society. But of course from the different religion and manners of the Muhammadans, and the absence among them of the unalterable barriers which separate class from class, even man from man, in Hindu society, the Muhammadan Kambohs are far better off than their Hindu brethren: they cannot possibly be degraded like the latter. There is little doubt that if their character had been more respectable, they would have been more respected by the other Musalmans, and in so many generations as have elapsed since their conversion, their origin might have been forgotten, as that of so many other tribes absorbed in Muhammadan society have been. But they have retained their original Afghan character in common with their Hindu brethren, and as their comparative elevation by their conversion has given them opportunities for education and office to which the others are comparatively strangers, they have only added to it all the arts of chicane, flattery, and intrigue. Thus they have risen high, like the Lálás and the Káshmíris. Like the Lálás and the Káshmíris, they are esteemed

are to this day famous for their proficiency in wrestling. Lassen, however,

for their business capacity and ability in general. They know well how and where to be courtly, and always watch for opportunities to usurp power, the semblance as well as the reality. Thus if the Kambohs are contemned, they are likewise feared. Both Kashmíris and Kambohs are looked upon with suspicion as dangerous. Persecuted from place to place, now in sunshine, now in gloom, they are not crushed. If they are banished from one district, as Gulab Sing once banished the Kashmíris, they rise to the top in another, and not long after return to their former district in greater strength than ever.

At the Court of Audh, Izhar Hussain and Muzaffar Hussein, Kambohs, were ministers, and knighted and ennobled. The Kambohs have been known and feared at Murshidábád, Rámpúr, and other Darbárs. If there is any distinction to be made between Kashmíris and Kambohs for villainy, the voice of the people gives the palm to the latter. No proverb is oftener on the lips of the people of Upper India than this:—

Yake Afghán, duwum Kamboh, siyum badzát Kashmírí.

"First the Afghán, second the Kamboh, and the third villain (lit. bastard, *villain*) is the Kashmírí."

There is a conflict between the accounts of the origin of the Hindu and Muhammadan branches of the tribe. The pretensious Muhammadans, as if in answer to the contempt of general Indian society, assert for themselves the most extravagant claims of superiority. To atone for their actual degradation, they are not content to be noble, they must be illustrious—absolutely royal. They derive themselves, to their own satisfaction, from the old Kai sovereigns of Persia. When the Kais, they say, lost the crown, and were ordered to quit the country, they retired to India. As they passed, the people called the fugitives *Kai ámboh*, meaning the *Kai party*, which became *Kamboh*. This is clever, and phonetically plausible, but nothing more. It is not in the nature of things—it is less in the nature of things Indian—that the descendants of royal fugitives from any country, of whatever race, should not receive honors and welcome from all classes of the people. If nothing else, their wealth and dignity, learning and character, would command these. Least of all is it likely that they should, whether they became Hindus or Muhammadans, be degraded to that abject situation of pariahhood in which we find the Kambohs. The whole narrative is of a piece with the impudence of the class. Under any circumstances, there is the greatest necessity for caution in accepting the accounts of the origin of so notorious a people, low in the social estimation of the rest of society, but lettered and able, every second man of whom is a clever secretary, and who have produced many literary men. They have irresistible temptation to tamper with their traditions.

The accounts of the Hindu branch is of course more modest and perfectly credible. Both the accounts place the original seat of the race beyond the Panjáb, but the Muhammadans place it far in the west in Persia, while the Hindus are content to come from nearer Afghánistán. According to the latter, they were one of the tribes on the Afghán frontier. In the tracks of the numerous invasions of Mahmúd the Ghaznavide, part of their people were forced to become Moslems. Under what circumstances they crossed the Five Rivers and moved eastward is not explained. Nevertheless, the Hindu Kambohs seem to give the unvarnished tradition of the race. Some Hindu Kambohs assert that they and the Kshattríyas of the Panjáb are the same people, descended from a common stock. Even this may be explained, and is more probable than the royal pretensions of the Muhammadans.

says it is probably the name of a river, and we must look for it somewhere in the neighbourhood of the country of the Yavanas.

In the Amarakosha, the word occurs as the name of a kind of horse, being enumerated along with the horses of Scythia, Bactria, Kandahár, &c. Commentators explain it to mean a swift horse; but this is scarcely likely, seeing that all the other terms are specific and intended to indicate the locale of the breeds; the Yavana horse, followed by the Scythian horse, the Kandahári horse, the Kámboja horse, the Turki horse, unmistakably points to a country; and if so, we must look for that Yavana country nearer home than Ionia or Greece, whence no horses were exported. With the first vowel lengthened (*yávana*, the produce of the Yavana country) the word is given as a synonym of Turushka (Turkish), and means 'gum benjamin' or 'olibanum,' which is a produce of Central Asia, but which was never imported from Ionia or Greece. *Yavaphala* or Jaṭámánsi (*Valarea jatamansi*), in the same way, is a produce of Central Asia, and not of Greece, and its name shews the Yavanas to have been a Central Asiatic race.

Hemachandra gives *yavaneshta*, or "the beloved of the Yavanas," for lead, which was taken away from India by the Phœnicians and Romans, but never by the Greeks—at least there is nothing to show that the Greeks were particularly fond of it. The same author gives *yavanapriya* for 'black pepper,' and that was an article of commerce with the western nations long before the Greeks came to India. According to the Rájanirghaṇṭa, *yavaneshtá*, with a long final a, is the name of garlick, and all the Mlechchha races are fond of it; it was not a special favourite of the Greeks. The same work gives *yaváni* or *Yavániká* as the name of *Ptichotis ajwan*, which is a native of Scythia, Bactria, Persia, Turkey, and the southern parts of Europe generally, and is not confined to Ionia or Greece, nor is there anything to show that the Greeks alone traded in it.

Again, *yavaniká* for the outer screen of a tent (*ganát*) is an article with which the Hindus must have come into contact in their intercourse with the nomades of Central Asia, long before the advent of Alexander in India, if they did not bring it thence with them when migrating from Ariya to India.

In Kátyáyana's Várttika on Aphorism 175 of the first Section of the fourth Book of Páṇini, the Yavanas are linked with the Kámbojas, showing their near relationship.

There is a passage in the Mahábháshya of Patanjali which also calls for a few remarks here. It has often been quoted as a proof in support of the theory which would interpret the word Yavana to mean a Greek, and it is a remarkable one for many reasons. Professor Goldstücker, in his learned essay on Páṇini, gives the following summary of the passage in question. "In Sútra iii. 2, iii., Páṇini teaches that the imperfect must be used, when the

speaker relates a past fact belonging to a time which precedes the present, and Kátyáyana improves on this rule by observing that it is used too when the fact related is *out of sight, notorious, but could be seen by the person who uses the verb.* And Patanjali again appends to this Várttika the following instances and remarks : "*The Yavana besieged* (imperfect) *Ayodhyá; the Yavana besieged* (imperfect) *the Mádhyamikas.* Why does Kátyayana say : '*out of sight?*' (because in such an instance as) 'the sun rose' (the verb must be in the aorist). Why '*notorious?*' (because in such an instance as) 'Devadatta made a mat' (the verb must be in the preterite). Why does he say : '*but when the fact could be seen by the person who uses the verb?*' (because in such an instance as) according to a legend, Vásudeva killed Kañsa, (the verb must likewise be in the preterite).

"Hence he plainly informs us, and this is acknowledged also by Nágojibhaṭṭa, that he lived at the time—though he was not on the spot—when "*the Yavana besieged Ayodhyá,*" and at the time when "*the Yavana besieged the Mádhyamikas.*" For the very contrast which he marks between these and the other instances proves that he intended practically to impress his contemporaries with a proper use of the imperfect tense."*

Now, if we accept the date of Buddha's death to be 543 B. C., and the period of Nágárjuna, the founder of the Mádhymika sect, to be four hundred years after the death of Buddha, we would bring the time of Patanjali to 143 B. C.; the time would be only 43 B. C., if the interval between the death of Buddha and the promulgation of the doctrines in question be five hundred years as supposed by some. Then deducting therefrom sixty-six years which Lassen and Max Müller suppose are due to a mistake in the tradition on the subject, and the date would be brought down to twenty-three years after Christ. Again, Abhemanyu of Kashmír is said to have encouraged the work of Patanjali, and flourished in 60 A. C. Thus we have a wide range of two hundred and three years, from 143 B. C. to 66 A. C., for the date of Patanjali, and during that time the Greeks, the Bactrians, and the Scythians, severally attacked India on

* Preface to the Manava Kalpa Sútra, p. 229.

III. 2, III : अनद्यतने लङ्.—Kátyáyana : परोक्षे च लोकविज्ञाते प्रयोक्तुर्दर्शनविषये.—Patanjali : परोक्षे च लोकविज्ञाते प्रयोक्तुर्दर्शनविषये लङ् वक्तव्यः । अरुणद् यवनः साकेतम् । अरुणद् यवनो माध्यमिकान् ॥ परोक्ष इति किमर्थं । उदगादादित्यः । लोकविज्ञात इति किमर्थं । चकार कटं देवदत्तः ॥ प्रयोक्तुर्दर्शनविषय इति किमर्थं । अजान कंसं किल वासुदेवः.—Kaiyyaṭa : परोक्षे चेति । अननुभूतत्वात् परोक्षोऽपि प्रत्यक्षयोग्यतामात्रेण दर्शनविषय इति विरोधाभावः—Nágojibhaṭṭa on these instances of Patanjali : भाष्ये अजानेति किम् । स वधो हि नेदानीमनप्रयोक्तुर्दर्शनयोग्योऽपीत्यर्थः । अरुणदित्युदाहरणे तु तुल्यकालः—प्रवर्त्तत इति बोध्यं ॥

so many different occasions, that it is impossible to say with any approach to certainty that by the term Yavana, Patanjali meant the Greeks and no other. Goldstücker reconciles this by saying: "Yet the word '*Yavana*' carries with it another correction of this uncertainty. According to the researches of Professor Lassen, it is impossible to doubt that *within this period, viz.* between 143 before, and 60 after Christ, this word Yavana can only apply to the Græco-Indian kings, nine of whom reigned from 160 to 85 B. C. And if we examine the exploits of these kings, we find that there is but one of whom it can be assumed that he, in his conquests of Indian territory, came as far as Ayodhyá. It is *Menandros*, of whom so early a writer as Strabo reports that he extended his conquests as far as the Jamuná river, and of whom one coin has actually been found at Mathurá. He reigned, according to Lassen's researches, more than twenty years, from about 144 B. C."*

The argument here, however, is founded on a *petitio principii*—that "it is impossible to doubt that between 143 before and 60 after Christ, this word Yavana can only imply the Græco-Indian kings." Lassen himself has admitted that within the period in question, the Græco-Bactrians were likewise called Yavanas, and generally he says: "I believe I may look upon the name of yavana as an old *general* term. The Indians use this name for the remotest nations of the West; but in different periods, according to the degree of knowledge, and the extent of the commerce of the Indians, the term was applied, both by Indians and Iranians, to various peoples in the West. Its oldest signification is probably Arabia, because Arabia is called *Yavana*. The next meaning is supplied by the term *yavanáni*, which signifies the writing of the Yavanas, and must be referred to Aryan writing, which was known to the Indians, and was used before the time of As'oka in Gandhára, west of the Indus, because As'oka had one of his inscriptions cut in that system of writing."† Elsewhere he says, "The old Indians used the name of Yavana as a general term for all the nations of the West. It signified first the Arabians, and, probably at the same time, the Phœnicians, because the latter came most frequently as merchants from the West to India."‡

As regards Menandros,§ it is a mere assumption to say that because Strabo states his conquests had extended as far as the Yamuná, it must have extended three hundred miles beyond that river to the middle of Audh. Put in other words, the statement would stand thus: Strabo was wrong when he said the conquest of Menandros extended as far as the Yamuná, and therefore his erroneous statement may be taken as a proof of the conquest

* *Opus cit.*, p. 234. † Indische Alterthumskunde, p. 729. ‡ Ibid., p. 861.

§ Mr. D'Alwis is of opinion that the Malinda of the Pali Annals is perhaps Menander. Pali Grammar, p. XLII.

in question having extended to Audh. The logic of such an argument, to say the least, is highly unsatisfactory. Cunningham, I understand, overcomes the difficulty by assuming the 'Isamos,' the river named by Strabo, to be the "Isan" nadi between Fathgaṛh and Kánhpur, and not the Yamuná; but I do not know the arguments on which this assumption is made to rest. The argument about the coin of Menander found at Mathurá may be placed besides that which would assume a Roman conquest in Travancore, because a lot of gold coins of the Cæsars have been found there. As a matter of fact it is well known that coins of Apollodotus and Strato have likewise been found in Mathurá, but none of Menander in Audh. These two arguments failing, there would be nothing to show that Patanjali used the term Yavana to mean "a Greek and a Greek only." If we bear in mind the facts that Menander came to the possession of the eastern portion of the dominions of Eukratides on this side of the Paropamisus, and that according to the Vishṇu Puráṇa, the Yavana country abutted on the western side of the Indus, there will be nothing to object to Menander's being called a Yavana, a sovereign of the country to the west of the Indus, or of the Yavana country, without meaning that he was a Greek. It should be added here that the term Mádhyamika, which has been taken by the critic to mean the Buddhist sect of that name, has been also frequently used to indicate the people of the middle country, that is, Mathurá and its neighbourhood, and there is nothing to prove that Patanjali used it in the former, and not in the latter, sense. On the contrary, one of the two examples referring to a country, the other may be accepted in the same sense. Patanjali, as a Hindu, probably did not care much about the history of the Buddhist sect of the Mádhyamikas, and whoever made war with the Mádhyamikas, it may be fairly presumed, preferred a country or nation to a religious sect.

To turn now to the dramatic works which have been appealed to by the upholders of the Greek theory. Dushyanta is described in the S'akuntalá, as attended by a retinue "of Yavana women with bows in their hands and wearing garlands of wild flowers." Commenting on this passage, Professor Williams says: "Who these women were has not been accurately ascertained. Yavana is properly Arabia, but is also a name applied to Greece. The Yavana were therefore either natives of Arabia or Greece, and their business was to attend upon the king, and take charge of his weapons, especially his bows and arrows."* An Amazonian arm-bearer of this description also appears in the Vikramorvas'í, and Professor Wilson takes her to be either a Tartarian or a Bactrian woman. He observes: "A Yavani, which is rather inexplicable. The Muhammadan princes had guards of African women in their harems, and the presence of female attendants in those of the Hindu sovereigns has also been adverted to; but the term

* Translation of Sakuntalá, p. 35.

Yavana has been applied by the later Hindus to the Muhammadans; and it is not likely that either Persian or Arabian women ever found their way into the inner apartments of Hindu princes, as personal attendants or guards. If, as has been supposed, Yavanas formerly implied Greeks, it is equally impossible that Greek women should have fulfilled such an office, as few could have found their way to India, or even to Bactria; and those would have been, it may be supposed, too highly valued by their countrymen to have been suffered to act as slaves to barbarians. Perhaps Tartarian or Bactrian women may be intended."*

I believe few will dissent from this conclusion. Doubtless the Alexandrian invasion took place long before the time when the two dramatical works here noticed were composed, and their author was perfectly well aware of the character of the Greeks; but it would be doing a grave injustice to Kálidása to say that he so far trangressed the laws of poetical propriety and consistency as to attach Grecian damsels to the retinue of Dyushanta and Puraravas, two of the most ancient monarchs of the Indo-Aryan race. He could not possibly have so far forgotten the legendary lore of his country as to suppose that the Greeks, who first came to India in 327 B. C., could be relegated to the Satyayuga or the golden age, without offending the sense of propriety and consistency of his readers.

Supposing, however, for the sake of argument, that he did so forget, and that, for the time, highly civilized and luxurious Greek women were better suited to serve as Amazonian armbearers than their rougher and more hardy sisterhood of Asia, still the question would arise, was there ever such a supply of Grecian damsels in India to afford opportunities to Hindu kings to employ them as their body-guards. When Alexander came to India, he had to satisfy himself with two Asiatic wives, Roxana the Bactrian, and Stratira the Persian, the former of whom bore him his only son, and his followers could not have been better off in this respect. His successors in Asia all made themselves independent, denying the supremacy of the Greek sovereignty in Europe. They had, therefore, very few opportunities to draw regularly on their mother-country for recruits, and consequently they had to depend partly on such adventurers as came in quest of fortune, and partly on the Eurasian descendants of the first-comers, supplementing them largely by the natives of the country over which they reigned, even as the European races did during the last two centuries in India. Some Greek women they doubtless had with them; but looking to the numerical insignificance of the European women who came to India with the Spaniards, the Portuguese, the French, and the English governors, commanders, officers, soldiers, merchants and adventurers during the seventeenth and the eighteenth centuries, and the large number of Eurasians produced by the conquerors, and bearing in mind the fact that

* Hindu Theatre, II. p. 261.

the means of transportation by modern ships are infinitely more convenient than travelling across wild and inhospitable countries was two thousand years ago, we may unhesitatingly conclude that at the time of Greek supremacy in North-Western India, the number of Greek women in this country or its neighbourhood was extremely limited; and that, like the latter, the Greeks during the three centuries immediately preceding the era of Christ, associated largely with the women of their conquered country. And such having been the case, there could not have been such an abundance of Greek women as to afford a perennial source from which Hindu kings could draw their supplies, and, whether for recruits for their Amazonian guards or as odalisques, the women of Scythia, Bactria, Persia, and Afghánistán, the latter particularly, were always, comparatively, more easily available, and doubtless did yield their quota, and these it may fairly be presumed, passed under the name of Yavanas. According to the Institutes of Bodháyana "he who partakes of beef, speaks much and that which is forbidden, neglects the established rules of conduct and of religious duty, is a Mlechchha,"* and as the word yavana is a synonymous term, the women aforesaid would very properly be called by that name. It is not to be denied that in one instance a Greek lady was accepted as a bride by a Hindu sovereign. Megasthenes tells us that when Seleukos Nikator found that he was not in a position to overcome Sandrocotus whom he had come to assail, and concluded a treaty for peace and a present of five hundred elephants by ceding a part of his kingdom to the west of the Indus, he gave his daughter away in marriage to Chandragupta; but it was quite exceptional, and cannot be adduced as a proof in support of any general premiss on the subject.

There is a passage in the Málavikágnimitra in which the hero of the piece Agnimitra, king of Vedisá, one of the Mauriya sovereigns of Magadha, states that a horse, which his father Pushpamitra had let loose, preliminary to the celebration of a grand sacrifice, had, while roaming under the care of a hundred princes headed by Vasumitra, crossed the Indus, and that while grazing on the right bank of that river, a body of Yavana horsemen had attempted to seize it, and a sanguinary battle was the consequence."† Dr. Weber takes this to be a clear indication of the Greeks, who occupied the country after the invasion of Alexander; but there is no valid reason to suppose that the aggressors were really Greeks, and not one of the various marauding tribes who dwelt and still dwell on the right

* गोमांसखादको यस्य विरुद्धं बहुभाषते।
धर्म्माचारविहीनश्च म्लेच्छैत्यभिधीयते॥

† योऽसौ राजयज्ञविधितेन मया राजपुत्रशतपरिवृतं वसुमित्रं गोप्तारमादिश्य अत्सराय निर्वर्त्तनीयो निर्म्लेच्छतुरङ्गमो विसर्जितः। स सिन्धोर्दक्षिणं रोधसि चरन्नभ्यानिकेन यवनेन प्रार्थितः। तत उभयोः सेनयोः सङ्घट्टोऽभूत् सङ्घर्षः।

bank of the Indus along the Sulaimán range. At best it is a case of *post hoc propter hoc*, which does not in any way solve the question at issue.

Kálidása, in the fourth book of the Raghuvaṃsa, carries the victorious prince Raghu to the country of the Persians (Párasikas), where the prince, overpowered by the radiant lotus-like eyes of the Yavana damsels, fought the Persians, and scattered their bearded and moustachioed heads over the earth; his soldiers then spread their carpets under shady vineyards and caroused on grape wine.* Here Kálidása makes the Yavanís the wives of the Persians, and, bearing in mind the fact that the Hellenes of the post-Alexandrian period did not tolerate any hirsute appendages to the face, and the husbands of the Yavanis were all bearded and moustachioed, it is impossible to conclude that his Yavanís were "Greeks and Greeks only."

A king of Mithilá is described in the third chapter of the Dasakumára Charita to have laid a scheme for defrauding a Yavana merchant of a valuable diamond which he had for sale.† The name of the merchant was, according to some MSS., Khaniti, and according to others Svabhiti, but Professor Wilson suspects neither is correct. The story cannot be later than the seventh century, and at the time a Greek merchant was the least likely person to be met with in Tirhut, and Professor Wilson very properly takes the circumstance to be a proof of "the intercourse of foreign traders, Arabs or Persians, with India before the Muhammadan conquest."‡ Lassen also admits that "the word Yavana did apply to the Muhammadan Arabians at the time of their commerce with India."§

In the Harsha Charita, Bána states that a reader whom he entertained, used to recite for his diversion the *Yavana-prayata puráṇa*, which Mr. Hall justly observes, "Colonel Wilford would have pronounced to be the Iliad,

* पारसीकांस्ततो जेतुं प्रतस्थे स्थलवर्त्मना ।
दृष्टिभ्यामिव रिपुस्त्रीणामञ्जनेन संयमी ॥ ६० ॥
यवनीमुखपद्मानां सेचे मधुसदं न सः ।
बालातपमिवाजानामकालजलदोदयः ॥ ६१ ॥
सङ्ग्रामस्तु मुखस्यास्य पार्श्वात्यैरश्वसाधनैः ।
आर्द्रभूजितविश्रेय प्रतियोधेऽनुजस्य भूत् ॥ ६२ ॥
मद्यापवर्जितैस्तेषां शिरोभिः श्मश्रुलैर्मुखैः ।
तस्तार सरघा वाप्तैः सद्यो द्राक्षपटैरिव ॥ ६३ ॥
अपनीतशिरस्त्राणाः श्रेसाखं शरणं ययुः ।
प्रक्षिप्तप्रतीकारः संरम्भो हि महात्मनाम् ॥ ६४ ॥
विकृष्यन्ते स्म तद् योधा मधुभिर्विजयश्रमम् ।
आक्षीर्णजिनरत्नासु द्राक्षावलयभूमिषु ॥ ६५ ॥
४ सर्गः ।

† Wilson's Ed., text p. 111.

‡ Ibid, Preface, p. 19.

§ Indische Alterthumskunde, p. 730.

or the Odyssey."* But having neither the "etymological courage" of that gentleman, nor the historical intrepidity of some of his successors, I can make nothing of it.

The Smritis refer to the Yavanas very frequently, and denounce association with them at table as highly sinful; but they afford no information which can be of use in identifying the Yavanas, except that they hold the Mlechchhas and Yavanas to be the same, and that expiations for associating with them should be alike. I shall, therefore, refrain from quoting from them. The word Yavana, in some sense or other, is also common enough in modern works; but it is not worth while citing passages from them, as they cannot be adduced as proofs in any way. I believe what has been written above, will suffice to show that in Sanskrit literature, the word in question has been used, primarily to indicate a particular nation, or race, or tribe, on the west of Kandahár, and secondarily to designate the western races generally; and that this interpretation will apply to every passage in Sanskrit works in which the word has been used, and that without a single exception.

I will now turn to the second argument set forth at the beginning of this article. There is no question whatever as to the accuracy of that part of Prinsep's reading of the As'oka edicts of Girnár and Dhauli, supported as it is by the concurrent testimony of Wilson's reading of the Kapurda Giri inscription, in which Antiochus Theus of Syria is named a "yona raja;" and that 'yona' is the Páli form of the Sanskrit Yavana, is evident from the repeated use of that term in the Páli Buddhistical annals of Ceylon in that sense. The only question, therefore, that has to be decided is whether the word *yona* in the passage has been used specifically to mean a Greek, or generically as a man of the western nation?

If we accept the first branch of the alternative, we find that in the thirteenth tablet† Antiyoko (Antiochus Theus, king of Syria) is described to be a Yona king; but Ptolemaios‡ (Turamáyo), Antigonus (Antikona), Magas (Mako or Magá), and Alexander (Alikasunari) are not so called; and this would show that Syria and the countries to the east of it as far as Afghánistán, the greater portion of which Antiochus owned, were embraced by the

* Hall's Vásavadattá, Preface, p. 12.

† Journal, R. As. Soc., XII., p. 225.

‡ It is worthy of note here that if Turamáya be the correct Páli rendering of Ptolemaios, Dr. Weber's assumption of Maya, the Dánava of the Mahábhárata, being also a version of the same name, would require to be modified. The omission of the first two syllables of the name in Sanskrit cannot be easily accounted for. It is true that the learned Doctor writes Asura Maya; but the first term is an adjective, and cannot be accepted as an integral part of the second, standing in the place of the first two syllables of Ptolemaios. For farther remarks on this subject *see* a note on page 25 of the first volume of my "Antiquities of Orissa."

term Yona, but neither Greece nor Egypt. It is not a little remarkable that, if Yona really meant a Greek and none but a Greek, Alexander, *the* Greek of Greeks to the Indians, should not have had that epithet assigned him. It can hardly be said that the 'yona' in the inscription is intended to indicate the nationality of Antiochus, and not the name of his acquired dominion, for the word in the sentence qualifies the term rájá and not the proper name ; besides yavana primarily is the name of a country, and only secondarily the designation of the inhabitants thereof. The propriety of the second branch of the alternative may be objected to by the query, if the word yona be a generic term, why should it not have been applied to all the western kings referred to? It may, however, be said in explanation of this objection that the inscription gives prominence to Antiochus, an ally who overcame the others, and the latter, therefore, could be allowed to go without any epithet. Prinsep, in his translation of the inscription in question, has "the four kings of Egypt," but there is no word in the text which could be taken as equivalent to the name of the land of the Pharaohs, and the kings named were certainly not all kings of the same place. In either case, the passage in question does not in any way support the assumption of Dr. Kern that the word yavana means "a Greek and a Greek only." The passage, however, is an important one, and calls for a more thorough examination.

It is, I believe, unquestionable that Alexander called himself a Macedonian. Arrian says he belonged to οἱ Μακεδόνες or Μακεδόνες καὶ Ἕλληνες, generally the former : Plutarch always calls him a Macedonian. Now, Chandragupta waited on Alexander on the other side of the Indus, and was perfectly familiar with the history of that sovereign. A few years afterwards, he married a Greek bride, the daughter of Seleukos Nikator, and had a Greek ambassador, Megasthenes, in his court for several years. We know not whether his son Vindusára was born of this Greek lady or not. If we assume that he was, he would be half a Greek by birth, and his son As'oka, three-fourth Hindu and one-fourth Greek. But denying the consanguinity of As'oka, it would be in the last degree inconsistent to suppose that he was other than thoroughly cognisant of the proper name of the Greeks and of the history of the Macedonian invasion, from which he was so little removed by time, and in which his grandfather took a prominent part. And such being the case, it is to be expected that he should, when describing persons of the race of his grandmother, in a state document of great importance, call them by their proper tribal or race name ; but this he does not. On the contrary, instead of calling them Macedonians, or Hellenes, he styles one of them a yona, and that one is the sovereign of a country which, according to the Vishṇu Puráṇa, was situated to the west of the Indus, but not so far out as Greece. This would naturally suggest the inference that he did so with special reference to the country, and not to the nationality of

the individual; or it may be that he used a generic term in the same way in which the classical writers of Greece and Rome used to employ the term "barbarian," or the Chinese now do the term "outside barbarian." Yavana has been so used in this country from a long time, and its definition shows that it may be so employed with great propriety. In the present day, when the Hindus have to indicate any particular nationality, they use their proper names; thus they have *Ingrej* for the English, *Farási** for the French, *Portukes* for the Portuguese, *Dinámár* for the Danes, *Olandáj* for the Dutch (Hollanders), *Ellemár* for the Germans (from the French 'Allemands'), &c.; but when they speak of them generally, they call them Yavans or Mlechchhas, and we have no reason to doubt that this happened in the time of As'oka, and also long before his time.

Again, there is a strong tendency in specific names gradually to expand according as the circle of knowledge of the persons using them widens, and to become generic. This is quite as true of the common terms of a language as of proper names; but to confine my attention for the present to the latter, I find the people of Persia and western Afghánistán knew their neighbours to their east as the dwellers of the valley of Sindh, or Sindhus, which by an aspiration became Hindus, and by a subsequent process of cockneyism India; and now and for at least two thousand three hundred years, that word has indicated the whole of the peninsula of India, and for a long time also the Burman peninsula or "India beyond the Ganges." To the south-west of Persia, the nearest neighbours of the Iranians was the tribe of Baná Ṭai, and all the Arabian tribes are now to the Persians the Ṭáí race. The nearest to France was the province of the Allemani, and the German nation now are to the French the Allemands. A small province to the north-east of India was China, and the whole of China has now the same name. Káthái again was only a province or small country to the east of Tartary, and the whole of China is to Persian, Mongol, and Turkish writers Khatá, whence the English Cathay, which has only recently become obsolete. To the south-east of Bengal, near Chittagong, a small tribe bore the name of Mags, and the whole of the people of Burmah is now, in the language of Bengal, indicated by the same name. Banga originally was a small tract on the east of the Gangetic delta; it is now the name of entire Bengal. Applying this principle to Yavana, we find it originally, *i. e.* in the time of Páṇini, who was a native of Kandahár, applied to a western country, probably Assyria—possibly Persia, or Media. When the Hindus receded to this side of the Indus, it was applied to

* The word Firingí comes from the French 'Franc,' through the Arabs and the Persians who pronounce it Firang. When the Spaniards and the Portuguese first came to India they were called Firang, and the error was never after rectified. It is now used to indicate the mixed descendants of Europeans. In the Vidyásundara of Bháratachandra, Firingí stands for the Portuguese, and Farásh for the French.

some undefined country immediately to the west of the Indus; and lastly, it became the name of all western people from Sindh to England. It doubtless meant 'the casteless people;' but it was not necessarily an opprobrious term, and in a verse, quoted by Colebrooke from the Siddhánta of Varáhamihira, the Yavanas, although Mlechchhas, are said to be honoured as rishis, because they have the science of astronomy amongst them.* Such a term could be very appropriately employed by As'oka to indicate his ally. In the time of his grandfather, a part of Arachotia was included in India, and Persia was well known by a separate name, so the western country then most probably meant Assyria and the country to the west of it, that is Arabia, and possibly as far as Syria, or further still, though the authority under notice does not justify the assumption. At any rate, I fail to perceive how the passage can be adduced as a proof that Yona meant "a Greek and a Greek only."

The third argument would be of considerable importance if it could be shown that the Hindus borrowed any portion of their astronomy directly from the Greeks. This, however, cannot be done. The proofs usually adduced are founded on mere hypotheses and conjectures, and most of them are not to the point. It is undeniable, for instance, that the Hindu signs of the zodiac bear a close similitude to those of Greek astronomers, but, it being quite uncertain who were the borrowers and who the lenders, it can serve no purpose one way or the other. Supposing we admit Dr. Weber's conjecture that the Hindus got them from the Greeks, still the question will not be advanced in the least, for it would not prove that 'yona' meant a Greek. The same may be said of the Drekkánas or regents of one-third of a planetary sign,—the Decanii of European astrologers,—as also of other terms bearing close similitude to Greek words of like import. Dr. Weber notices the following astronomical terms as of Greek origin; *viz. anaphá*—*ἀναφη*, *ákokera*—*αἰγοκερως*, *ápoklima*—*ἀποχλιμα*, *ára*—'Αρης, *ásphujit*—'Αφροδιτη, *ittham* (*itthasi* Dr. Bháu Dájí; *ithusi* Muir)—*ἰχθυς*, *kendra*—*κεντρον*, *kemadruma*—*χρηματισμος*, *koṇa*—*κρονος*, *trikoṇa*—*τριγωνος*, *kaurpya*—*σκορπιος*, *kriya*—*κριος*, *jámitra*—*διαμετρον*, *jituma*—*διδυμος*, *júka*—*ζυγον*, *jyau*—*Ζευς*, *távuri*—*ταυρος*, *taukshika*—*τοξοτης*, *ḍrikáṇa drekáṇa*—*δεκανος*, *durudharâ*—*δορυφορια*, *dus'chikya*—*τυχικον*, *dyúnam dyutam*—*δυτον*, *panapharâ*—*ἐπαναφορα*, *páthena*—*παρθενος*, *mesúraṇa*—*μεσουρανημα*, *liptá*—*λεπτη*, *rihpha rishphá*—*ῥιφη*, *leya*—*λεων*, *vesi*—*φασις*, *sunaphá*—*συναφη*, *harija*—*ὀριζων*, *hibuka*—*ὑπογειον*, *himna* (perhaps *himra?*)—'Ερμης, *heli*—'Ηλιος, *hṛidroga*—*ὑδροχοος*, *horá*—*ὡρα*. Some of these, however, are formed with well known and ancient Sanskrit roots, and retain the meanings which they originally had and still have as common terms of the language, and they can no more be adduced as proofs of the Hindus having

* म्लेच्छा हि यवनास्तेषु सम्यक् शास्त्रमिदं स्थितं।
ऋषिवत्ते पि पूज्यन्ते किम्पुनर्दैवविद् द्विजः॥
Colebrooke's Essays, II. p. 410.

borrowed them from the Greeks, than any number of common words can be put forth as proofs of the Sanskrit language having been borrowed from the same source. Take, for instance, the word *júka* from the root *yuj* to join; if we may accept it as a proof of its being Greek from its resemblance to ζυγον, what is there to prevent our believing it to have been derived from any other European language from its resemblance in sound and sense to the English *yoke*, the Saxon *geoc*, Danish *juk*, Swedish *ok*, French *joug*, Italian *giogo*, Spanish *yugo*, Latin *jugam*, or Russian *igo?* Again, *Trikona* is formed of *tri* three and *kona* 'an angle' or 'corner,' both old and well known Sanskrit words, and I see no reason why we should call it an importation from the Greek language. Doubtless, the equivalent of *tri* in Greek is τρες and of *kona* κονως; but for the Sanskrit *tri* we have Saxon *thres*, Swedish *tre*, German *drei*, French *trois*, Italian *tre*, and Spanish and Latin *tres*, and for the Sanskrit, *kona*, French, *cona*, Italian *cono*, Spanish *cono*, and Latin *conus;* and the argument urged against the Greek origin of *júka* applies to this with equal force. The same may be said of some of the other words. The fact is that technical terms being specialised common words, and Sanskrit being derived from the Aryan language, the mother of all the European languages named above, a great number of common words as well as technical terms must be closely similar in all of them; but such similitude cannot be accepted as a proof of any one of those languages having been derived from another of them. Doubtless some of the terms are very like Greek, and may be Greek for aught we know to the contrary; the mediæval names of some of the signs of the Zodiac, such as Tuvarí for Taurus, Leya for Leo, are very probably so; but they are insufficient by themselves to prove the fact that they were taken directly from the Greeks by the Hindus. On the contrary, seeing that the intercourse of the Hindus and Arabs dates from a very early period; that the latter borrowed the system of Nakshatras,* or lunar asterisms or mansions—the *manázil* of the Arabs, from the Hindus; that Hindu authors are quoted by Arab writers; that Arabic technical terms are pretty frequently used by the Hindus; and that the Arabs translated largely both from Greek and Hindu astronomical works, the presumption would be strong that the Hindus got such of their Greek astronomical terms as can be proved to be unquestionably of Greek origin through the medium of the Arabs, and not directly from the Greeks. There is no separate distinct word for Greece or the Greeks in the Sanskrit language, and it has

* Dr. Weber is of opinion that the system of Nakshatras was originated by the Chaldeans, and from them it went on the one side to the Hindus, and on the other to the Arabs. M. Biot holds that the Chinese *sieus* are the prototypes of the Hindu asterisms. Professor Max Müller repudiates this *in toto*, and maintains that the Hindus originated the system, and from them the Arabs and the Chinese got it. The subject, however, is of no importance in connexion with the object of this paper.

been shown that the term Yavana applies to the Arabs in common with others, and therefore no reliable conclusion can be drawn from the fact of its being used to indicate foreign terms or authors.

Next come the names of four Greek authors, whose works, it is said, the Hindus translated. The first of these is known to Sanskrit writers by the name of Yavanáchárya, literally 'a Yavana professor,' or Javanes'vara, the 'Yavana lord.' Dr. Kern says, Utpala calls him Sphujidhvaja, which some one has "translated, in the manner of Bottom, into S'ucidhvaja." The Dr. himself confesses he cannot see what Sphujidhvaja represents, but he adds the query "Is it Aphrodisius?"* Whoever he was, his work as now extant, bears no internal evidence of its being a translation from the Greek, or of its being of any antiquity, and under the circumstance, it would be more appropriate to call him an Arab than a Greek. His work being modern, and this is acknowledged by Dr. Kern, he may have been a Pársí, or Muhammadan of Central Asia.

The next name is that of Pulisha, whose work is often named "Paulisha Siddhánta." The work is no longer extant, but it has been referred to by several astronomers and their commentators. Dr. Kern says "in a MS. of the commentary on Brihat Sañhitá, it (the name Pulisha) has been corrected by some *lepidum caput* into Pulastya, and such quasi-corrections are very common."† Elsewhere he states: "Amongst the 18 authorities whose names occur in the opening lines of the so-called Náradí Sañhitá, we find a Yavana, a Paulastya, and a Romaça. All three names are blunders; there is not one Yavana only, but there are many, the word is never used in the singular in any other work of some value. Farther, Paulastya is in sundry MSS. a quasi-corrected form for Pauliça (Siddhánta)."‡ Pulasti or Pulastya is the name of one of the earliest sages. He is reckoned among the seven great rishis who were transformed into the seven stars of the Pleiades, and the association of his name with an astronomical or astrological work, whether his composition or not, is certainly not remarkable. The word Pulisha also is by no means such as to preclude the possibility of our accepting it as a Sanskrit term; derived from the root *pul* 'to be great' with the affix *kvip*, and *ish* 'to pervade' with the affix *k*, it would make a correct Sanskrit word meaning 'one who pervades greatness,' or one worthy of honour, and as such may well pass as the name of a saint. Pulisha, again, is the Prakrit form of the word Purusha, and as such may also pass for a good Indian name. Drs. Weber and Kern, however, are not satisfied with it in its Sanskrit form, and take it to be Greek. The latter, when first entering into the question, expresses himself with some indecision thus: "The name of its author Puliça points clearly to a foreigner, a Greek, or Roman; Albirúní calls him Paules the Greek, and gives the name of the Greek's birth-place in a form which seems corrupt. His testimony is, of

* Brihat Sañhitá, Preface, p. 48. † Brihat Sañhitá, Preface, p. 48. ‡ Ibid., p. 40.

course, the testimony of the Hindu astronomers at his time, and there is not the slightest reason to doubt its accuracy."* The train of his reasoning, however, soon overcomes his caution, and at the end of half a page he emphatically declares "that Puliça was a Greek, I do not doubt for a moment, notwithstanding that the Pauliça-siddhánta, judging from quotations, and rather numerous ones, is so thoroughly Hinduised that few or no traces of its Greek origin are left." "It may be deemed," he continues, "a trace of foreign origin that Puliça calls "solar" *(saura)* time, what otherwise is called "civil" *(sávana)* time, or as Utpala puts and exemplifies it, "what with us is 'civil time' is with Pauliça-áchárya 'solar time,' a solar day being with him the interval from midnight till midnight or from sunrise to sunset. We should meet, perhaps, with a few more traces of Greek influence, if we had the whole work before us, but nobody who is acquainted with the Hindu mind would ever expect a translation."†

Again, "to return to the Pauliça Siddhánta, it must have existed, like some of the other Siddhántas, in two editions. All the quotations from it are again in Áryá, which to my mind renders it probable that it was not long, say, at the utmost, 100 years, prior to Áryabhaṭa and Varáhamihira. Now it is interesting that Utpala quotes a Mûla-Puliça-Siddhánta, an "original Puliça Siddhánta," and that this time the verse is in Anushṭubh. It is only one verse, but quite enough to prove that even this "original work had been adapted to the exigencies of Hindu science, for it gives the number of revolutions of the fixed stars during the Four Ages."‡

To summarize these remarks,—we have a few quotations from a work which is no longer extant; these quotations are so thoroughly Hinduised that they bear no mark to indicate that they are not indigenous; they are not translations; but because they refer to solar time which, though well known from comparatively very olden time by the Hindus, corresponds with the Greek solar time, and because the Doctor will "perhaps meet with a few more traces of Greek influence" in those quotations when better acquainted with them, he has not only "no doubt for a moment" that their author "Puliça was a Greek," but he summarily denounces the authenticity of those MSS. which write the name Pulastya and not Pulisha. This is a process of ratiocination which, I regret, I cannot appreciate. To my mind it has very much the appearance of forcing facts to subserve the purposes of a theory. The authority of Albirúní on the subject amounts to the mode in which the Sanskrit name is written in Arabic letters, and, bearing in mind the fact how Indian names get transmogrified in the Semitic character, may be set aside as of little import. That he called Pulisha a Greek on the authority of his Hindu informers, and not on that of a conjecture of his own, is at best a gratuitous assumption. I have nothing to say against the theory of two

* Ibid., p. 48. † Ibid., p. 49. ‡ Ibid., p. 50.

recensions of Pulastya's work, but I hope I may be permitted to ask if a single verse suffices to settle the question, how many recensions of the Brihat Saṅhitá would one be called upon to assume, had that work existed only in quotations, seeing that though its hundred and five chapters are written principally in the Áryá metre, they have interspersed in them verses in several different metres?

Dr. Weber goes further than Dr. Kern, and at once recognises in Pulastya *vel* Puliça, the author of the *Eisagoge*, Paulus Alexandrinus. Dr. Weber does not say that he has better evidence at command than what Dr. Kern had, and under the peculiar circumstances of the case, he cannot have, and his assumption, therefore, is even more noteworthy than that of Dr. Kern; but what is most remarkable in the case is, that the latter, though a former pupil and generally a faithful follower of the learned Professor, withholds his assent to the identification. He says—

"Weber's surmise is scarcely admissible; for the passage alluded to will be found in all works on Nativity almost literally the same, because it is a simple enumeration of the mansions and their lords; two lists, if their contents are the same, cannot differ in form, nor can they be said to bear greater resemblance to each other than to other lists containing the same. Besides, there is no indication that Balabhadra has taken the passage from Puliça, which must be established before any conclusion can be drawn. The strongest argument, however, against the supposition is the fact that the Puliça-siddhánta is no work on Nativity, but an astronomical work, in which the original of the passage in Balabhadra could not find a place. It may be that, besides the Pauliça Siddhánta, there existed another work of Pauliça's on Nativity, but nobody has made any notice of it, and unless Paulus Alexandrinus has written, beside his Eisagoge, a book on astronomy, which again is unknown, we have no right whatever to infer that he and Puliça are one and the same; for identity of name is to me slender ground, especially when the name happens to be a common one."*

It is not for me to decide this vexed question, nor is this the place for it; suffice it to say that if the work of Pulastya or Puliça has been so written as not to retain any trace of its foreign origin, and the old Hindus did not translate the quotations, it cannot be called Greek. Pulisha is nowhere called a Yavana by the Hindus, and, if it be acknowledged on the authority of Albirúní that he was a Yavana, his birth-place Alexandria would take us to Egypt, and not to Greece.

The next name on my list is Maṇittha. Of him Dr. Kern says: "A curious name is Maṇittha, whom Weber suspects to be Manetho, the author of the Apotelesmata. I thought for a moment of Manilius, but, after all, Weber's conjecture is decidedly more plausible. Maṇittha, that is the book, being of foreign origin would seem to be countenanced by the fact

* Ibid., p. 49.

that in one of his opinions he agreed with the "ancient Greeks" and disagrees with Satya and Varáhamihira. If I had been able to get the Apotelesmata, I should have compared the quotations from Manittha. It will be always worth while doing so, although it is not to be expected that the marked and especial coincidences will be numerous and conclusive. In the same manner as a few traditions sufficed to enable Hindu astrologers to father the children of their own brains on their holy sages, so, I strongly suspect, they also did with the more renowned of the Greek astrologers. The notion of the productions of a man's mind being his property, a notion carried to such a ridiculous extent in Europe, was unknown to them. Unhappily, the opposite extreme they fell into, is much more pernicious. In Manittha, as quoted by Utpala, there is an extremely absurd passage where the author ascribes antiquity to himself! "*Iti brumas cirantanáh;*" that shows the spirit."*

I need add nothing to this to show that the name does not help us in any way to prove that the Hindus translated works on astronomy or astrology directly from Greek texts, or that Yavana meant a "Greek and a Greek only."

The last name I have to notice is Ptolemaios. He is nowhere mentioned in Hindu astronomy or astrology, and the only question is as to whether the Hindus borrowed the idea of the armillary sphere from that of Ptolemy, or not. With reference to it, I cannot do better than quote here the remarks of Colebrooke, the highest authority on the subject. He says: "They may have either received or given the hint of an armillary sphere as an instrument of an astronomical observation, but certainly they have not copied the instrument which was described by Ptolemy, for the construction differs considerably."† It may be added that the Almagest of Ptolemy was severally translated, epitomised, and revised by the Arabs,‡ and the Hindus might have got their knowledge of that work from those versions, even as Hindu boys now-a-days familiarise themselves with the history and literature of ancient Greece from English and vernacular translations without knowing a word of Greek. As no translation of, or quotations from, the Almagest are, however, to be met with in Sanskrit, the name of Ptolemy, or resemblances to his doctrines, may be accounted for more reasonably in a different way. The name of the Almagest, beginning with the Arabic article *al*, shows that it was written by one who was thoroughly imbued with Arabic learning, and probably drew largely from it, and as the Hindus acknowledge to have drawn largely on the Arabs for astromical facts, we have one common source whence both Ptolemy and the Hindus derived their

* Ibid., p. 52. † Essays, p. 345. ‡ Loc. cit., et p. 472.

knowledge of those facts, and their mutual similitude is therefore natural. And the argument which applies to Ptolemy would apply equally to all the rest, whenever it can be shown, and this can be done often, that there are similitudes between Greek and Hindu astronomical terms and theories.

I have already shown that the locale of the Yavana country as given in Sanskrit literary or quasi-historical works, is extremely uncertain. The same uncertainty obtains in astronomical works, in which a greater precision was to have been expected; thus, according to Parásara, Yavana lies to the southwest of Madhyades'a, and taking the latter to be Mathurá or the Sauraseni country, we should have to look for it in Balochistán; but according to Varáhamihira, its capital Yavanapura was 60° to the west of the meridian of Lanká. This would take us to the meridian of the Libyan Desert. "Rome was, however," according to Dr. Kern, "supposed to be 90 degrees west from the meridian of Lanká, so that the longitude of Yavanapura is two-thirds of that of Rome, and this, however erroneously the absolute longitude is given, suits approximately the situation of Alexandria, which accordingly may be understood by Yavanapura."* In a footnote to this passage he adds: "So far as the longitude is concerned, Constantinople would answer as well as Alexandria, but I am not aware that any astronomer drew his first meridian over Constantinople, and without that it would not be taken as a point of departure." This inference is, however, contradicted by a passage in the *Milindappana*, a Páli Buddhistical work of Ceylon, in which Milinda, *alias* Menander, who is said to be a Yona king, is made to state that he was born at *Kalasi* in Alasadda, = Alexandria, which was two hundred yojanas or 800 miles from *Sagal* where he reigned, and which was twelve yojanas or 48 miles to the west of Kashmír.† Both these places are mentioned in the same sentence by Isiodorus—"et Sigal urbs, ubi regia Sacarum, propeque Alexandria urbs et non procul Alexandriapolis urbs." The Mahavansa makes Alassada the capital of the Yona country. Now, 848 miles would barely represent 12° 20′ to the west of Kashmír, and take us only to the eastern side of Persia. But whether this Yavanapur be Alexandria or Constantinople or a town in Persia, we do not get to Greece, and the word Yavana must, therefore, be taken to mean either Egypt, Arabia, or Persia.

I have very little to say with reference to the fourth argument. It is not my intention, and in fact it is impossible, to deny that apart from the similitude which results in the languages of the Hindus and the Grecians, from the circumstance of the two races having sprung from the same source, there has been extensive interchange of terms between them as the

* Brihat Saṅhitá, Preface, p. 54.

† D'Alwis, Introduction to Kachchayana's Grammar, p. XLIII.

immediate result of Greek supremacy in North-western India soon after Alexander's invasion, and of direct and indirect commercial intercourse between the two nations for some time. Such supremacy and intercourse imply that the natives of this country had a name for their foreign rulers; but whether it was the generic term Yavana, or the specific Hellenes, Macedonian, or Greek, we know not,—probably, the first, but the Greek terms current in the Sanskrit language do not help us to prove it, and it is unnecessary therefore to dwell upon the subject.

As far as we can judge from the facts above set forth, the only conclusions which would be consistent and tenable are—

1st. That originally the term Yavana was the name of a country and of its people to the west of Kandahár,—which may have been Arabia, or Persia, or Medea, or Assyria,—probably the last.

2nd. That subsequently it became the name of all those places.

3rd. That at a later date it indicated all the casteless races to the west of the Indus, including the Arabs and the Asiatic Greeks and the Egyptians.

4th. That the Indo-Greek kings of Afghánistán were also probably indicated by the same name.

5th. That there is not a tittle of evidence to show that it was at any one time the exclusive name of the Greeks.

6th. That it is impossible now to infer from the use of the term Yavana the exact nationality indicated in Sanskrit works.

These are doubtless very unsatisfactory conclusions to arrive at after a protracted disquisition. To the public, so loath to suspend its judgment in any one question, nothing is more abhorrent than the admission that it does not know; but suspension of judgment pending further enquiry, or admission of ignorance, or a cautious reserve, or an attitude of scepticism, if the reader chooses to call it so, is, I believe, more conducive to the elucidation of truth than hasty generalizations which tend only to enlarge the dominion of error.

Contributions to the Geography and History of Bengal (Muhammadan Period). No. II.—*By* H. BLOCHMANN, M. A., *Calcutta Madrasah.*

(Continued from Journal, Pt. I, 1873, p. 310.)

When putting together the notes for my 'Contributions to Bengal Geography and History' in last year's Journal, I did not think that I would have so soon to add a sequel to that portion which referred to the history of the Independent Sulṭáns of Bengal. The old seats of Muhammadan governors and the Dargáhs of Moslem Saints at Bihár, Debkoṭ, Gaur, Sunárgáoṇ, Silhaṭ, and Sátgáoṇ had before been visited by General Cunningham, Dr. Wise, Mr. Westmacott, and myself, and the result was the discovery of more than fifty inscriptions belonging to the reigns of the Independent Kings. But many places of antiquity remained, and still remain, to be examined, especially G'hoṛág'hát, Tájpúr, Púrniah, Hazrat Paṇḍuah, Ekdálah, Máldah, and Maimansingh. In the beginning of this year, Mr. Westmacott had occasion to visit Máldah, and on examining the immediate neighbourhood of the station, he found no less than seventeen new Arabic inscriptions, which he very kindly placed at the disposal of the Society. They belong to the reigns of six kings and bear the following dates:

1. Mahmúd Sháh (I), one of 859 A.H.
2. Bárbak Sháh, one of 868 A.H.
3. Yúsuf Sháh, two, date uncertain.
4. Fírúz Sháh (II), two, one of 894 A.H.
5. Husain Sháh, seven, of 899, 900, 907, 910, 914, 918, 923, A.H.
6. Nuçrat Sháh, four, of 930, 935, 938 A.H.

The first of these inscriptions is the earliest of Mahmúd Sháh that has hitherto been discovered; and the Fírúz Sháh (II) inscription of 894 is very valuable as the first clearly dated record of this king.

Of the remaining, the Husain Sháh inscriptions of 899, 900, and 907 deserve special mention. The first two, of 899 and 900 A. H., are the earliest now known, though we have coins of the same years.*

In my former essay, I took on the testimony of coins the year 899 as the first year of Husain Sháh's reign. But as the coins of 899 seem all to belong to Fatḥábád, *i. e.* Eastern Bengal, the Hon'ble E. C. Bayley, in his note on a gold coin of Muzaffar Sháh,† concluded that Muzaffar Sháh was still alive in 901, but besieged by Husain Sháh in Gaur. Mr. Westmacott's inscriptions of 899 and 900, coming as they do from places almost under the walls of Gaur, render it likely that the conquest of Gaur and

* Journal, A. S. Bengal, 1873, Pt. I, p. 292.

† Journal, 1873, Pt. I, p. 313.

Muzaffar Sháh's death took place before the middle of 899, unless we suppose that the manner of the warfare, as carried on in those times, did not prevent people from erecting mosques in the immediate neighbourhood of the camp of a besieging army.

The inscription of 907 (A. D. 1501-2) belongs to a Madrasah, built by Husain Sháh in commemoration, as it appears, of his conquest of Kámatá and Kámrúp. The inscription is, therefore, a contemporaneous record of Husain Sháh's conquests, and confirms the Ásám Búranjí, which refers the conquest of Kámrúp to 1498, *i. e.* 903-4 A.H. The particulars given in the 'Álamgírnámah and the Riyáz-ussaláṭín regarding this expedition, the result of which was the temporary annexation of Kámrúp to Bengal, have been given in former numbers of the Journal.* The Ásám chronicle mentions 'Dalál Ghází, *son* of Husain Sháh', as the first governor of Kámrúp. He is, no doubt, Dányál, Husain Sháh's eldest son, whom Delhi historians mention as having been delegated in 901 by his father to meet Sikandar Lodí in Bihár, and who built, immediately before the Ásám expedition, the dome of Sháh Náfah's shrine in Munger.† Dányál, or Dalál, perished, according to the 'Álamgírnámah, soon after in Ásám. According to the Ásám Búranjí, he was succeeded by 'Musundar Ghází,' whose name has not yet been identified. Musundar, in his turn, was succeeded by Sulṭán Ghiyáṣuddín. His name is the same as that of Husain's son who in 939, as we shall see below, succeeded his nephew under the name of Ghiyáṣuddín Mahmúd Sháh (III). But they may be different persons, as is in fact implied in the following extract from an essay, entitled 'Ancient Assam,' in the 'Calcutta Review,'‡ the author of which has not specified his source. "'Aláuddín Husain's march into Ásám does not seem to have extended beyond Tezpúr; and though he succeeded in demolishing the capital, he was ultimately repulsed by the *Bárah Bhúiyas*,§ and was obliged to content himself with his possessions in Kámrúp. He returned to his capital, after having appointed his *son-in law, Nawáb* Dalál Ghází to the government of the province. On Dalál's death, his imbecile son [Musundar ?] was superseded by Sulṭán Ghiyáṣuddín, *who received his commission from the court of Gaur.* This prince introduced a colony of

* Journal, A. S. Bengal, 1872, pp. 79, 335; do., 1873, p. 240.

† Journal, A. S. B., 1872, p. 335.

‡ Calcutta Review, 1867, Vol. XLV, p. 528.

§ Dr. J. Wise has now defined the status of the Bárah Bhúiyas in Bengal. What their position in Ásám was is not yet quite clear.

In Benaudha, too, (Gorák'hpúr and surrounding districts) we find "twelve Rájás (one Muhammadan inclusive) who comprised one Paut, and were considered to have common interests;" *vide* Elliot's Races, by Beames, II, 39.

Elliot's list includes the Ujjainiyah Rájás of Dumráon in South-Western Bihár.

Muhammadans into the country, and made large consignments of land for the maintenance of the Moslem religion. Most of the land is, by permission of the British Government, still retained for this purpose. Extreme measures were also adopted for making proselytes, and temples were indiscriminately plundered and demolished. The stone temples of Kámikha on the Nilachol and of Moha Muni at Hájo were sacrificed to Moslem fanaticism. Ghiyáṣuddín resolved to build a grand mosque, which was to stand on the top of a high hill, known as the Gauṛachol. There is a tradition that, in order to give it peculiar sanctity, it was to have been built upon a stratum of earth that had been brought for this purpose from the holy city of Mecca. The hill is known to this day as the 'Páo-Makkah,' and the Muhammadans of the country believe that four pilgrimages to it are equal in meritorious efficacy to one made to the tomb of the Prophet. But Ghiyáṣuddín died before he could complete the arrangements for the erection of the mosque. He was interred beneath the holy earth, and the materials he had collected were used in raising a monument over his remains, which also serves the purpose of a mosque."

"We have already said that, previous to the last Muhammadan invasion, western Kámrúp had been overrun by mountain tribes, of which the Koch were one of the most important. On the death of Ghiyáṣuddín, Hájo, the leading chieftain of the tribe, succeeded in uniting all the little principalities of the country under his authority, and so constituting himself master of Kámrúp. His successor, in 1581,* transferred all the western portion of his kingdom to his nephew, from whom are descended the kings of Koch Bihár."

Besides the seventeen inscriptions received from Mr. Westmacott, I obtained two from Sáran, which Mr. J. R. Reid, C. S., kindly sent me, and two from Serampore, near Calcutta, where they had been lying for more than half a century in the College and Press compounds. One of the latter belongs to the reign of Bárbak Sháh, and the other to that of Nuçrat Sháh; they bear the dates 865 and 933, respectively. Dr. G. Smith, late Editor of the 'Friend of India,' very kindly drew my attention to these slabs,† and after consulting with the Principal of the College, permitted me to transfer them to the Museum in Calcutta, where they are now preserved.

Lastly, I have given an imperfect reading of an inscription of Fíruz Sháh II. (A. D. 1488 to 1490), the slab of which was some years ago presented to the Society by Bábu Hara Chandra Chaudhurí, of Sherpúr,

* *Vide* Journal, A. S. B., 1872, pp. 52, 100.

† A third has been used as a mantlepiece; it only contains the *Áyat ul-Kursí*, (the 256th verse of the second chapter of the Qorán) and the year 993 A. H., or A. D. 1585.

Maimansingh, author of the excellent 'Sherpúr Bivarana.'* The slab is of granite; but the letters are very unclear and nearly one-fourth of the inscription is hopelessly illegible. The inscription was found at Garh Jaripá, north of Sherpúr Town, not far from the Karíbárí hills and about 16 miles south of the old frontier between Bengal and Ásám (Zil'ah Goálpárá). It was at first attached to iron rings at the gate of the mud fort of Garh Jaripá, from where it had been removed to a place inside the fort, called by the people 'the tomb.' It seems to have belonged to a Mausoleum and to an *'Idgáh*. The inscription confirms the legend of the foundation of Garh Jaripá by the Muhammadans, and also shews that Perganah Sherpúr belonged to the Bengali Sulṭáns.

Parganah Sherpúr itself was formerly called Daskahániá Bázú, under which name it occurs as a Mahall of Sirkár Bázúhá in Todar Mall's Bengal rent-roll of 1582. In Ja'far Khán's rent-roll of 1722, the old division into Sirkárs was abolished, and Daskahániá Bázú appears under the name of Sherpúr-Daskahániá† as a parganah of Chaklá Karíbárí; but not long after, Sherpúr was for the greater part annexed to Dháká, in which position it is given in Rennel's Atlas.‡

The name 'Daskahániá,' or Daskahaóniá, is said to be derived from *das káhan*, or *das kaháwan*, *i. e.* 10 × 1280 cowries. I cannot say whether this etymology refers to the waste condition of the parganah in former times; but Bábu Hara Chandra Chaudhurí says that the people had to pay ten *káhans* of cowries for crossing the Brahmaputra below Sherpúr, because the river was so very wide. It is more likely that the *khalsa* portion of the land revenue only amounted to 10 *káhans*;§ at least Grant says that in 1728

* শেরপুর বিবরণ. Pt. I, Descriptive Geography. Calcutta, 1872. Pt. II is to contain a historical account of Sherpúr Parganah.

† The three principal Sherpúrs in Bengal are—Sherpúr 'Aṭáí, east of Barhampúr in Murshidábád; Sherpúr Múrchah, south of Bográ; and Sherpúr Daskahániá, east of the Brahmaputra.

‡ He spells the name Shearpoor Duskownya.

§ Indian Atlas Sheet No. 119 shews north-west of Sherpúr and Garh Jaripá a place of the name of Bádé Chálís Kahániá, or 'Bádé of 40 Káhans,' and the term therefore has a reference to the revenue of the parganah.

Besides, we know that the net málguzárí of Silhaṭ, for example, was, even at the time when the Company acquired the Díwání, paid in cowries. Thus in 1172 B. S., or 1765, the total *Açl* and *Izáfah* of Silhaṭ was 1,070,120 káhans, at 2½ káhans per rupee; but about the same time, according to Grant (Vth Report, p. 382), the importation of cowries from the Máldív Islands was so great, that he expected a fall to 4½ káhans per rupee. He also mentions (*loc. cit.*, p. 363) a parganah in the Niyábat of Dháká the revenue of which was paid in cowries.

For Oríśá, which is more accessible than Silhaṭ, Abulfazl gives the rate of 10 kahá-wans per rupee. *Vide* Thomas, 'Chronicles,' p. 110 *n*.

the *khalsa* portion only amounted to Rs. 33, whilst Rs. 19,799 were jágír lands.*

The original Muhammadan proprietors of Mahall Daskahániá, according to Bábu Hara Chandra Chandhurí, were the Ghází family, of which Dr. J. Wise has given a biographical account; and it is believed that Sherpúr was so called after Sher 'Alí Ghází, the last of the Ghází family, a tyrant, who caused one Rám Ballabh Mazumdár, a 'muharrir' of the Qánúngo Daftar to be brutally murdered. Sher 'Alí in consequence of this crime forfeited his estate, which was made over to Rámnáth Chaudhurí, the youthful son of Sher 'Alí's victim† and the first of the Nandi Zamindárs of Sherpúr.

Tradition ascribes the first settlement of Muhammadans in Sherpúr to 'Majlis Shámuá,' or 'Húmáyún Sháh,' a nephew of 'the king.' Majlis Shámuá seems to have gone to Daskahániá to reclaim waste lands; for he was to receive as many cowries as would fill two baskets for every basket load of earth he removed. Majlis Shámuá settled at a place where a man of the name of Jaripá resided. Some time after, the king heard that his nephew did not act according to his command, and called him to account. Instead of replying, Majlis Shámuá, who was skilled in magic, had his head cut off and sent in a wallet to the king. The bearer, against orders, opened the wallet on the road; and when the head was brought to the king, it said nothing, but only laughed.

According to another version, the king's nephew came with troops and workmen. On arrival at Garh Jaripá, which was then dense jungle, they found a man of the name of Jaripá half buried in the ground. The man would only leave his place on being assured that the fort which was to be erected, should be called after him, and the spot has ever since borne the name of Garh Jaripá, or Garjaripá. Some time after, the king sent an army to Garh Jaripá to capture his rebellious nephew. Despairing of his life, he committed suicide, and the head was sent to the king.

I take this opportunity to mention the Dargáh of Sháh Kamál. West of Sherpúr Town, across the Brahmaputra and north-west of the rising station of Jamálpúr, lies Durmut, and near it, the shrine of a holy man of the name of Sháh Kamál.‡ I mentioned the Dargáh to Dr. J. Wise, who soon after sent me an English translation by Mr. Donough, Dep. Magistrate of Jamálpúr, of a historical pamphlet in Bengali, which contains Sháh Kamál's history and an account of the miracles he wrought. From Mr. Donough's sketch it appears that Sháh Kamál came in 910 B. S., or

* Grant, Vth Report, p. 365. He mentions Benodnarain zamíndár.

† Sherpúr Bivaran, I, p. 155. Rám Náth's son, Srigopál Chaudhurí was alive in 1071 B.S., or 1664 A.D.

‡ *Vide* Sheet No. 119 of the Indian Atlas.

1503 A. D., from Multán to Bengal, and settled at Durmut, where he forced the devils to give up the spades with which they had been undermining the bank of the river. Sháh Kamál thus saved Durmut from destruction: the current turned towards the east, but the old bed of the river lying close to the village is still visible.

As an acknowledgment of his services, Kamál received from Isfandiyár* Khán Ghází, who is also called Isfandiyár Manohar Khán, and from Rájá Mahindra Náráyan a jágír. Kamál died in 952 B. S., or A. D. 1545, and his body was interred in the village on the bank of the Brahmaputra, where his tomb still exists. Mr. Donough says there is no inscription on it.

On his way from Multán to Bengal, Sháh Kamál was accompanied by his nephew Sháh Ni'mat. They met a travelling Sayyid, whose son Ismá'íl had just died. Sháh Kamál restored him to life, and Ismá'íl from gratitude followed him and settled at Rahmatpúr, parganah Sherpúr, where his descendants still live. Sháh Ni'mat remained in Durmut; and when his uncle died without issue, the jágír and Kamál's tomb remained in his possession. The present owner is Sháh Qiyámatullah, son of Sháh Samí'ullah, *alias* La'l Miyán, son of Sháh Khairullah, son of Sháh Háfizullah, son of Sháh Ṭayyib, son of Sháh Ni'mat, Kamál's nephew.

Of Sháh Kamál's four wives, Bároi Bíbí is still known. She was the daughter of a Hindú of the Bároi, or *pán* seller, caste, who resided in the village of Sharáliá. She married Sháh Kamál, because his miracles had inspired her with veneration. The burial place of Bároi Bíbí is esteemed as a dargáh, and still exists in the village of Bároikándhí. Another of Sháh Kamál's wives lies buried by his side in Durmut.

Sháh Kamál passed some days with his numerous followers in the exercise of worship at a place called Bakloi in Thánah Karíbárí, zil'ah Goálpárá. The village is situated on a hill, on the east bank of the Brahmaputra, where there is a dargáh of Sháh Kamál. The zamíndár also conferred Bakloi on him. Sháh Kamál's *chhurá*, or large knife, is still preserved. It is kept with great care on a throne, or *chaukí*, and is once a year carried away in procession and washed. Only Sháh Kamál's descendants may look on it with immunity from misfortunes.

The dates given in this legend cannot be correct; for the present owner of Sháh Kamál's Dargáh is, according to his own pedigree, the sixth descendant of Ni'mat Sháh. Hence we would be nearer the truth, if we took 1052 B. S., or 1644 A. D., as the year of his death, instead of 952 B. S. The incidental mention, however, of Rájá Mahindra Náráyan and Isfandiyár Ghází helps us to test and fix the chronology of the Sháh Kamál legend. Rájá Mahindra Náráyan is the son of Báldeo Náráyan (or Balit

* Corrupted by the people to Ishpinjír Khán.

Náráyan, as he is often called), who succeeded his brother, the well known Paríchhat of Koch Hájo, in 1022 A. H., or A. D. 1613, and reigned till the beginning of 1638. Báldeo was succeeded by Mahindra Náráyan,* "a pacific prince, who employed his time in improving the condition of his subjects, and among other good deeds, conferred large grants on Bráhmans." He died, "after a reign of nineteen years," in 1657.

Isfandiyár Beg—later he was permitted to call himself Isfandiyár Khán—is the son of Allah Yár Khán, son of Iftikhár Khán Turkmán. Iftikhár had served in the beginning of Jahángír's reign in Eastern Bengal, and was killed in the last fight with the Patháns under 'Usmán Lohání.† Alláh Yár Khán received a *mançab* from Jahángír in Eastern Bengal, reached the high rank of Commander of Three Thousand under Sháhjahán, and distinguished himself in the sack of Húglí and the defeat of the Portuguese and in the war with Báldeo Náráyan. It is no wonder, therefore, that the family called themselves 'Gházís.' Allah Yár died in Bengal in 1650. His son, Isfandiyár Khán received a mançab from Jahángír and served with his father in Koch Hájo. He accompanied, in 1661, Mír Jumlah on his march to Koch Bihár, of which he was appointed Faujdár, and is specially mentioned in the 'Álamgírnámah‡ for his topographical knowledge of Eastern Bengal and Bhútan.

Sháh Kamál, therefore, must have died about the middle of the 17th century.

The twenty inscriptions given below are followed by several unpublished coins which throw new light on several points connected with Bengal History and Geography.

In my former essay (Journal, 1873, Pt. I, p. 250), I mentioned that our Society contains a dated silver coin of Shihábuddín Bughrá Sháh, son of Firúz Sháh (I) of Bengal. The coin, which bears the year 718 A. H. (A. D. 1318), has now been figured (*vide* Pl. XIII, No. 1), and is one of the most valuable Bengal coins of the Society's cabinet. It has led me to examine the history of the Balbaní kings, who ruled over Bengal from 681 to 731 A. H. (1282 to 1331 A. D.)

The only historical authority that we possess for this period is Ibn Baṭúṭah, whose account, meagre as it is, agrees with the evidence of coins

* Paríchhat succumbed to Jahángír, and Báldeo to Sháhjahán; hence Mahindra Náráyan had every reason not to renew opposition; *vide* the account of the conquest of Koch Hájo (zil'ah Goálpárá) in Journal, A. S. B., 1872, pp. 54, 62, and Áín Translation, Vol. I, 493. These passages adjust the chronology followed by Robinson in his 'Assam,' p. 156. Báldeo is the ancestor of the present Rájás of Bijní.

† *Vide* the account of his death given by the Dutch traveller DeLaët in Áín Translation, Vol. I, p. 521.

‡ Page 688.

and inscriptions, as far as they are known at present. The extraordinary error into which all Indian historians, whether Native or European, have fallen in describing the events of this period is this, that they have confounded Náçiruddín Bughrá Khán, Balban's son, upon whom the emperor conferred the government of Bengal, with Náçiruddín, second son of Fírúz I. and grandson of Náçiruddín Bughrá Khán, and have extended the reign of Bughrá Khán from 681 to 726 (A. D. 1282 to 1326), whereas in reality he disappears from historical records as early as 691 (A. D. 1292). I have, therefore, thought it desirable to give a connected account of this period.

The Balbaní Kings of Bengal.

(A. D. 1282 to 1331.)

In the beginning of Balban's reign (A. D. 1266), the governor of Bengal was Muhammad Tátár Khán.* On his death, which seems to have taken place soon after Balban's accession, Sher Khán was appointed imperial commander of Lak'hnautí. He was succeeded by Amín Khán, whose *náib* was Ṭughril.† When Balban rebuilt the town and fort of Láhor, which during the reign of Mu'izzuddín Bahrám Sháh had been destroyed by the Mughuls, he got dangerously ill. Ṭughril heard of it, and thinking that Balban, who was advanced in age, would not survive the attack, made war on Amín Khán,‡ defeated him, and took him prisoner. Ṭughril then proclaimed himself king of Bengal under the title of Sulṭán Mughíṣuddín (A. D. 1279). The course of his revolt, his pursuit by Balban, and his miserable end are known from other sources. Before leaving Bengal, Balban in 681 (A.D. 1282) appointed his son Náçiruddín Bughrá Khán governor of Bengal in its then circumscribed limits. As the son of the reigning emperor, he was allowed all the insignia of royalty; but it seems as if he had struck no coins.§ He is represented as an aimiable man of neither talents nor judgment, and fond of the pleasures of wine. Of his rule in Bengal nothing is known. He again visited Dihlí a few months before Balban's death (686 A.H., 1287 A. D.);

* According to Firishtah, he struck coins in his own name at Lak'hnautí.

† Badáoní I, 129.

‡ This differs considerably from Baraní; *vide* Dowson III, 112.

I must vindicate the honor of Balban's army, "whose legions daily traversed the earth, in the east to the confluence of the Ganges with the sea (*Gangáságar*), and in the west to the confluence of the Indus with the ocean" (J. A. S. B., 1874, p. 106). In his fights with the Mew tribe (*mewán*, pl. of *mew*, = *mewátí*), Dowson (III, 104, note) translates '*Yaklak'hí bandah i kháç i Sulṭán az mewán shahíd shud*,' "in this campaign one hundred thousand of the royal army were slain;" but it should be "Yaklak'hí, the private servant of the Sulṭán, was slain." *Yak-lak'hí* is a name like Hazár-dínárí; and Yak-lak'hí was very likely Balban's *safarchí*. The same name occurs again in Dowson, III, 218.

§ Baraní says that he did. Dowson III, 129.

but "people shut their eyes at him," and he shrank from the cares and anxieties with which he saw the proffered crown surrounded. If Amír Khusrau had not immortalized him in his 'Qirán-ussa'dain,' which describes the meeting between Bughrá Khán and his son and emperor Kaí Qubád at the banks of the Sarjú, the then frontier between Bengal and Dihlí, he would have sunk immediately after his appointment as governor of Lak'hnautí into utter oblivion. Even the death of his son Kai Qubád and the accession in 689 (A. D. 1290) of Sulṭán Jaláluddín Fírúz Sháh, when the Turks went out and the Khiljís came in, did not rouse Bughrá Khán to assert the hereditary rights of his family; and nothing shews better the contempt in which the king of Bengal was held at Dihlí than Jaláluddín's mode of disposing of the dacoits captured in the Dihlí territory.*

Náçiruddín Bughrá Khán appears to have died in 690 or 691 (A. D. 1291 or 1292); for in 691 we find that his son Ruknuddín reigned as king of Bengal under the name of Sulṭán Kai Káús. He is the first independent Muhammadan king of Bengal, whose authority was not disputed. From inscriptions found in Gangarámpúr, near Dinájpúr, and Kágol, near Lak'hí Saráí in Bihár, we know that he was still alive in 697 (A. D. 1297), but the year of his death is not known.† For the four years from 698 to 701 (A. D. 1298 to 1301) we possess neither medallic nor mural evidence. In 702 (A. D. 1302-3), however, we find the brother of Kai Káús reigning in Bengal under the name of Shamsuddín Fírúz Sháh I.‡ His reign appears to have been a prosperous one. He had several sons, of whom we know the names of five, *viz.*, Bughrá Khán (so called according to Muhammadan custom after his grandfather), Náçiruddín, Ghiyáṣuddín or Bahádur Khán, Qutlú Khán, and Hátim Khán. The third son, Ghiyáṣuddín, appears to have made conquests in Eastern Bengal. He established himself at Sunárgáon under the name of Bahádur Sháh, and struck coins with his name from 1311, if not earlier. There may be some truth in the ill attested statement of a later historian that Bahádur Sháh had the moral support of 'Aláuddín Khiljí, whose interest it was to have neighbours divided against themselves. The fifth son, Hátim Khán, was in 1309 and 1315, and very likely also during the intermediate years, governor of Bihár. The ruins of his palace in the town of Bihár still exist. Several families claim descent from him,

* He sent them by shiploads into Bengal, where he let them loose. Baraní, p. 189. That Bengal was completely severed from the Dihlí empire is clear from the omission of the Bengal Balbanís from the lists of imperial commanders which Baraní gives in the beginning of the reigns of the Khiljís.

† It was during his reign that Prince 'Aláuddín meditated a descent on Lak'hnautí; but he ultimately directed his plundering expedition to the Dak'hin.

‡ Ibn Baṭúṭah calls him merely Shamsuddín. *Vide* the extract from the French translation in Thomas, Chronicles, p. 147; and Lee's translation, p. 128.

and he seems to be the only Balbaní prince whose name is remembered at the present day.

Fírúz Sháh (I) died in 717 or 718 A.H. (A.D. 1317 or 1318),* and was succeeded by his eldest son, who took the title of Shihábuddín Bughrá Sháh. His coinage shews that he was king and held Lak'hnautí in 1318-19.. Soon after his accession, Bughrá Sháh was attacked and defeated by Bahádur Sháh.† Bughrá Sháh and his brother Náçiruddín managed to escape, and took refuge with Tughluq Sháh, who in 1320 had mounted the throne of Dihlí. Qutlú Khán was killed by Bahádur Sháh; Hátim Khán's fate is not known.

From Bahádur Sháh's coinage we see that he was in undisturbed possession of Lak'hnautí during 1321.

After 1321, however, the fugitive Náçiruddín appears to have gained influence in Lak'hnautí; but it is quite possible that the precarious nature of his tenure caused him again to join his brother Bughrá Sháh as supplicant in Dihlí. Ibn Baṭúṭah at least says that it was at their instigation that Tughluq Sháh invaded Bengal. When the imperial army left Dihlí, Bahádur Sháh retreated to Sunárgáon, and Náçiruddín left Lak'hnautí, joined the emperor at Tirhut, and accompanied him to Lak'hnautí, where Tughluq Sháh confirmed him as governor of the province, and allowed him the use of the royal umbrella and the jewelled staff (which is carried before kings), because "by his humility and submission he had established a preferential claim to the office."‡ Of Bughrá Sháh's fate nothing is known. Tughluq now despatched his adopted son§ Tátár Khán, governor of Zafarábád (near

* Mr. Thomas (Chronicles, pp. 194, 199) extends the reign of Fírúz Sháh to 722; but there are no coins for 719 and 721; Col. Bush's specimen of 720 is very doubtful, to judge from the figure, and for 722 no figure has been given.

† Bahádur Khán had the nickname of 'Boûrah (ce mot signifie dans la langue indienne *le noir*)'—evidently the Hind. بهورا, brownish. The Bibl. Indica edition of Badáoní (I, p. 224, middle) has بودا, evidently a mistake for Ibn Baṭúṭah's بورا.

Mr. Thomas (Chronicles, p. 197) calls Bughrá Sháh شمس الدين, instead of شهاب الدين,—a typographical error.

‡ This, I daresay, is the meaning of Baraní's phrase (p. 451), *kih dar iṭá'at o bandagí sabqat namúdah búd; i. e.* Bughrá Sháh, if still alive, was passed over. This explanation shews that the emendation of the texts of Barani and Firishtah proposed by Mr. Thomas (Chronicles, pp. 188, 197) is not required.

Firishtah, of course, confounds this Náçiruddín with Bughrá Khán, and calls him "the son of Balban." But Balban was born about 605 (A. D. 1208); and supposing that Bughrá Khán was born in 635—a moderate estimate—he would have been about ninety years old, when Tughluq was in Lak'hnautí, and his advanced age would certainly have been remarked. Further, Náçiruddín only received the province of Lak'hnautí, while Bughrá Khán had ruled over the whole of Bengal; Bughrá Khán's reinstatement, therefore, would have been a disgrace for an old man of illustrious descent.

§ *Pisar-khwándah*, پسرخواندة. This word is pronounced without the Izáfat, and means 'an adopted son,' not 'a foster son.'

Jaunpúr) with an army against Bahádur Sháh, who was captured and sent to Dihlí with a rope round his neck.

The provinces of Sunárgáon and Sátgáon were placed under separate military commanders, Sunárgáon being given to Tátár Khán.*

Tughluq Sháh then returned to Dihlí, and died on his arrival, crushed to death by the accidental or designed fall of a pavilion that had been erected for his reception. His successor, Muhammad Sháh Tughluq, left Náçiruddín in possession of Lak'hnautí. He released, however, immediately after his accession, Bahádur Sháh, gave him a large sum of money, and allowed him under certain conditions to return to Sunárgáon, where Tátár Khán, the imperial commander was stationed. The province of Sátgáon was placed under 'Izzuddín Yahyá A'zam ul-Mulk.† Tátár Khán received at the same time the title of Bahrám Khán,‡ as also a large sum of money, elephants, and horses, and was ordered to accompany Bahádur Sháh to Sunárgáon. They were to share the kingdom; the coinage was to bear the name of Bahádur Sháh and Muhammad Sháh Tughluq, and their names were to be read out jointly in the *khutbah;* and lastly, Bahádur Sháh was to give up his son Muhammad Barbák as hostage.

In 726 A. H. (1326 A. D.), Náçiruddín died,§ and Muhammad Sháh Tughluq appointed Malik Bedár Khiljí,—many MSS. have Malik Pindár—governor of Lak'hnautí with the title of Qadar Khán. Bahádur Sháh for some time remained faithful to his engagement, and acknowledged on his coinage Muhammad Sháh as his suzerain; but at last he attempted to throw off all outward signs of allegiance—Ibn Baṭúṭah says he would not give up his son—, and thus brought Muhammad Sháh's vengeance on himself. The emperor sent a corps to Bahrám's assistance, and Bahádur Sháh was defeated, captured, and put to death. His skin was stuffed and paraded through the provinces of the empire (about 731 A. H., or A. H. 1331).‖

Thus ended the line of the Balbaní kings of Bengal. The tragic end of this Bengali dynasty was not in the eyes of the Dihlí historians of sufficient importance to be recorded, and it was left to an African traveller to furnish another example of the vicissitudes of illustrious families.

* Firishtah says that Náçiruddín got the whole of Bengal (in the passage quoted by Mr. Thomas, Chron., p. 197); but further on, Firishtah corrects himself, and limits Náçiruddín's power to the province of Lak'hnautí.

† Bad. I, 226, 230.

‡ The French translation of Ibn Baṭúṭah has "Il (Muhammad Sháh Tughluq) expédia avec lui le fils de son frère, Ibrahim Khán," which seems to be a mistake for "Bahrám Khán, his adoptive brother." بهرام is often confounded with ابراهيم.

§ Firishtah mentions his death before relating the events of 727 A. H.

‖ There is a confusion of names in Badáoní (Bibl. Indica Edit., I, 227; Lucknow Edition, p. 59), who calls the rebellious governor of Multan "Malik Bahrám Aibah, adoptive brother of Sulṭán Tughluq."

Bengal remained imperial till 739 (A. D. 1338), when the death of Bahrám Khán* led to the successful revolt of Fakhruddín Mubárak Sháh, the chronology of whose reign was discussed in my former essay.

Summarizing these results and continuing the table of Bengal governors on p. 246 of last year's Journal, we have—

Muhammad Arsalán Tátár Khán. He was governor of Bengal in the beginning of Balban's reign.

Sher Khán.

Amín Khán.

Ṭughril (II), Amín Khán's *Náib*. He rebels in A. D. 1279, and proclaims himself king of Bengal under the name of Mughíṣuddín.

Náçiruddín Bughrá Khán, son of the emperor Balban, A. H. 681 to 691, or A. D. 1282 to 1292.

Rukn uddi'n Abul Muzaffar Kai Ka'u's, son of Bughrá Khán, the first acknowledged Muhammadan king of Bengal, 691 to 697 A. H., A. D. 1292 to 1297, or perhaps a few years later.

Shamsuddi'n Abul Muzaffar Fi'ru'z Sha'h (I), brother of Kai-Káús, who reigned from 702 (if not earlier) to 717 or 718, A. D. 1302 to 1317 or 1318.

Shiha'buddi'n Abul Muzaffar Bughra' Sha'h, son of Fírúz Sháh (I). He reigned in 718, or 1318, over Western Bengal.

Ghiya'suddi'n Abul Muzaffar Baha'dur Sha'h, brother of Bughrá Sháh. He ruled over Eastern Bengal from 711 (if not earlier) to 719, and over the whole of Bengal during 720, 721, 722, and perhaps 723.

Náçiruddín, brother of Bughrá Sháh, governor of Lakhnautí, from 723 to 726.

Ghiyáṣuddín Abul Muzaffar Bahádur Sháh, restored in 725 to the government of Eastern Bengal, jointly with

Bahrám Khán, 725 to 739. Bahádur Sháh rebels and is killed, about 731.

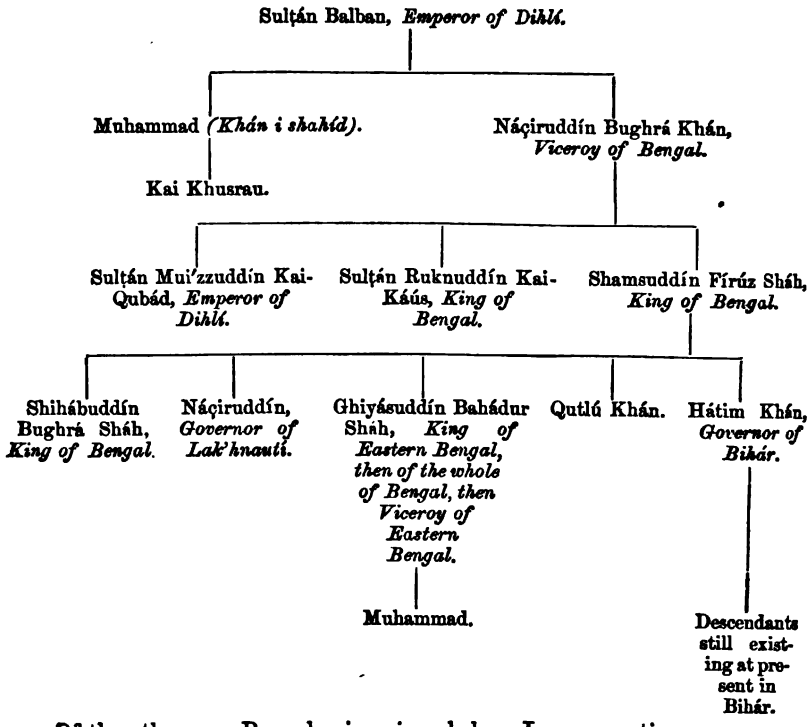
Qadar Khán, governor of Lak'hnautí, 726 to 740, when he is killed.

'Izzuddín Yahyá A'zam ul-Mulk, governor of Sátgáoṇ, 724 to 740.

We have, therefore, the following genealogical tree of the Balban Dynasty :†—

* Mr. Thomas gives a coin struck by Bahádur Sháh at 'Ghiyáspúr' without Muhammad Tughluq's name on it. Its date may be 730 A. H. If the name of the mint-town is at all capable of identification, it seems that we should look for it to the neighbourhood of Sunárgáoṇ.

† Completed from Chronicles, p. 148.



Of the other new Bengal coins given below, I may mention—

(1.) A specimen of Jaláluddín Muhammad Sháh's coinage, of 831 A. H. (A. D. 1427-28), belonging to the Society; *vide* Plate XIII, No. 2. In my former Essay, I published coins of Muhammad Sháh of 818 and 821.*

(2.) A unique Gold Husain Sháh of 907 (A. D. 1501-2), struck at Muzaffarábád.

Husain Sháh's mint towns, as far as known at present, are Fathábád, Muzaffarábád, and Husainábád. Fathábád was in my former Essay identified with the modern station of Faríd púr. Muzaffarábád occurs in an inscription of Husain Sháh's reign, published by me in the Journal for 1872, p. 106.† The inscription mentions that Rukn Khán, "Vazír of Muzaffarábád and Koṭwál of Paṇḍuah," built a mosque at Gangarámpúr. We may therefore conclude that Muzaffarábád was the (now unknown) name of a place or district in the neighbourhood of Paṇḍuah.

Husainábád is mentioned on Husain Sháh's later coins, as also on those

* Mr. Laidley's Muhammad Sháh given on p. Pl. IV, No. 8, Journal, A. S. B., 1846, resembles the specimen of the Society's cabinet.

† The legend as given there mentions Zafarábád; but the mistake was corrected in the Errata for 1872.

of his grandson and son Fírúz Sháh (III) and Mahmúd Sháh (III). There are several Husainábáds near Gaur, and it is probable that Husainábád stands for 'Gaur.' Mr. Westmacott* is inclined to identify it with the Husainábád which lies eleven miles east by south from English Bázár, and 5½ miles south by west from Chatra.

I may mention that Marsden and Laidley read "Jannatábád," instead of "Husainábád;" but on careful examination it will be found that 'Husainábád' is the correct reading; nor is there any historical evidence to shew that Gaur had the euphemistic name of Jannatábád before Humáyún's time.

(3.) Several new varieties of Nuçrat Sháh's coinage, one struck in 930 A. H. at Nuçratábád, a mint town which only appears on Nuçrat Sháh's coins. Unless the name stands, like Husainábád, for some place near Gaur, it may refer to the Nuçratábád, which Abulfazl gives under Sirkár G'hoṛág'hát. In fact, it seems as if Nuçratábád stood for G'hoṛág'hát itself; for Abulfazl does not mention the town and *Haweli* of G'hoṛág'hát, but gives only *Baldah* Nuçratábád.

(4.) A silver coin of Mahmúd Sháh (III), unique as far as the date is concerned, the property of Col. Hyde. Its date, 939 A. H., or 1533, shews that the death of Nuçrat Sháh, the accession and murder of Fírúz Sháh (III),† and Mahmúd Sháh's accession all took place in 939. We have, therefore, to fix Mahmúd Sháh's reign from 939 (end) to 944, instead of 940 to 944, as given in my former Essay.

I now give my readings and translations of the above named inscriptions and coins.

Shiha'buddi'n Abul Muzaffar Bughra' Sha'h.

(Great-Grandson of the Emperor Balban.)

For the reign of this king I have only to give the coin mentioned above.

1. *Vide* Pl. XIII, No. 1, and Thomas, 'Chronicles,' Pl. VI, No. 4. Silver. Weight, 166·97 grains. Lak'hnautí. A. H. 718. As. Socy. Bengal.

Obverse—الامام المستعصم امير المومنين

Margin—ضرب هذه الفضة بحضرة لكهنوتي في سنه ثمان عشر و سبعماية

Reverse—السلطان الاعظم شهاب الدنيا و الدين ابو المظفر بغدو شاه السلطان بن السلطان

Obverse—The Imám al-Musta'çim, Commander of the Faithful.

Margin—This silver piece was struck in Lak'hnautí, the capital, in 718.

Reverse—The great Sulṭán, Shihábuddunyá waddín Abul Muzaffar Bughrá Sháh.

Vide also Journal, As. Socy. Bengal, Pt. I, 1873, p. 250.

* Calcutta Review, 1874, p. 430. The Ain given a parganah Husainábád in Sirkár Audambar (Ṭánḍah); *vide* also Journal, A. S. B., for 1870, Pt. I, p. 295.

† Journal, A. S. B., 1873, p. 298.

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Jala'luddi'n Abul Muzaffar Muhammad Sha'h.

(Tenth king.)

In my former Essay, I published three coins of this king, dated 818 and 821. The Hon'ble E. C. Bayley has since found specimens dated from 818 onwards to 824.*

1. *Vide* Pl. XIII, No. 2. Silver. Weight, 161·53 grains. A. H. 831. Ṭughrá characters. As. Socy. Bengal, one specimen.

OBVERSE—خليفة الله بالحجة و البرهان.....

Margin—محلد (؟) ۸۳۱

REVERSE—جلال الدنيا و الدين ابو المظفر محمد شاه السلطان

OBVERSE—The Khalífah of God by evidence and proof.....

Margin— 831.

REVERSE—Jalál uddunyá waddín Abul Muzaffar Muhammad Sháh, the king.

Specimens of this coin do not appear to be very rare. I only lately saw three with a Calcutta *podár;* but they were entirely defaced and therefore useless.

Na'siruddi'n Abul Muzaffar Mahmu'dsha'h (I).

(Twelfth king.)

The following inscription belonging to the reign of this king was found by Mr. Westmacott laid in a tomb near the Fort at Máldah. The stone is not *in situ;* it must have been taken from a mosque built by one Hilál in A. H. 859.

No. 1. *The Mahmúd Sháh Inscription of A. H.* 859.

قال عليه السّلام من بني مسجدا بنى اللّه له قصرا فى الجنّة *

فى العهد السّلطان الاعظم المعظّم ناصر الدّنيا و الدّين ابو المظفر محمود شاه

* *Vide* Proceedings, A. S. B., August, 1874, p. 157. The legend of the curious A'zam Sháhí, exhibited by the Honorable E. C. Bayley, is as follows:—

OBVERSE—السلطان غياث الدنيا و الدين ابو المظفر اعظم شاه ابن سكندر شاه ابن الياس شاه

REVERSE—ناصر امير المومنين غوث الاسلام و المسلمين خلد ملكه

Margin—ضرب هذه السكة بحضرة فيروزآباد سنه ۸۱۲

The coin is, no doubt, posthumous; and the reason assigned, namely, Timur's invasion, is the only satisfactory explanation that can be given. The Jaunpúr coinage offers another example; for the earliest dated coin given by Mr. Thomas (Chronicles, p. 321) is of 818, and the first two Jaunpúr kings (796 to 804) struck no coins. Besides, this posthumous A'zam Sháhí of 812 helps us perhaps to fix the reign of Báyazíd Sháh; for as Báyazíd's coins commence with 812, it seems as if his reign lasted from 812 to 817.

السّلطان بني هذا المسجد بندهٔ درگاه هلال تحريرا في التّاسع عشر من شعبان عمّت ميا منه سنه تسع و خمسين و ثمانماية ||

He upon whom be peace said, 'He who builds a mosque will have a castle built for him by God in Paradise.' In the reign of the great and exalted king Náçiruddunyá waddín Abul Muzaffar Mahmúd Sháh, the king, this mosque was built by the slave of the throne [of God], Hilál. Written on the 19th Sha'bán—may the blessings of this month be general!—of the year 859 [4th August, 1455.]

The three Mahmúd Sháh inscriptions published in my former essay belong to 861 and 863; hence this one is the earliest hitherto found.

I take this opportunity of giving a slightly improved reading of Col. Hyde's unique Mahmúd Sháh silver coin, published by me in Journal, Pt. I, for 1873, p. 269.



OBVERSE—المؤيد بتائيد الرحمن خليفة اللّه باٰلحجت و البرهان ضرب ٨٤٦

REVERSE—ناصر الدنيا و الدين ابو المظفر محمود شاه السلطان

OBVERSE—Assisted by the assistance of the Merciful, the vicegerent of God by proof and evidence, struck 846.

REVERSE—Náçiruddunyá waddín Abul Muzaffar Mahmúd Sháh.

Ruknuddi'n Abul Muja'hid Ba'rbak Sha'h.

(Thirteenth king.)

Of this king only two inscriptions had hitherto been known. One of little importance was found by me at Tribení; the other, dated Çafar 865, fixed the beginning of Bárbak's reign, and was discovered by Mr. Westmacott near the tomb of the Pír i Chihilgazí, 'the Saint forty yards high,' near Dínájpúr.*

The following Bárbak Inscription, which is only two months later than that of Mr. Westmacott, was brought about fifty years ago by Mr. Marshman from Gaur to Serampore. As mentioned above (p. 282), it is now in the Museum in Calcutta.

No. 2. *The Bárbak Sháh Inscription of A. H.* 865.

قال النّبيّ صلّى اللّه عليه و سلّم من بنى مسجدا في الدّنيا بني اللّه تعالى له سبعين قصرا في الجنّة • بني المسجد في زمن الملك

* *Vide* Mr. Westmacott's note in Journal, Pt. I, 1873, p. 273.

العادل الا .. و هو السّلطان بن السّلطان ركن الدّنيا و الدين ابو المجاهد
باربكشاه سلطان بن محمودشاه السّلطان و بانيه العاشر
من جماد الاوّل سنه خمس و ستّين و ثمانماية ||

The Prophet (upon whom be peace!) has said, 'He who builds a mosque in the world will have seventy castles built for him by God in Paradise.' This mosque was built in the time of the just,...king, namely the Sulṭán, Ruknudduny á waddín Abul Mujáhid Bárbak Sháh Sulṭán, son of Mahmúd Sháh Sulṭán, and the builder is.....on the 10th Jumáda I, 865 [24th December, 1460].

The other Bárbak Sháh Inscription was discovered by Mr. Westmacott in the village of Deotaláo, on the road from Old Máldah to Dínájpúr and 22 miles from the former. The slab is on the entrance of a mosque.

No. 3. *The Bárbak Sháh Inscription of Deotaláo.* A. H. 868.

قال اللّه تعالى أجعلتم سقاية الحاجّ و عمارة المسجد الحرام كمن آمن
باللّه و اليوم الآخر و جاهد في سبيل اللّه لا يستوون عند اللّه و اللّه لا يهدي
القوم الظالمين * قال النّبيّ صلّي اللّه عليه و سلّم من بنى مسجدا في الدّنيا
بني اللّه تعالى [له] سبعين قصرا في الجنّة * بنا هذه المسجد الجامع
بقصبة تيروراباد خان الاعظم و خاقان المعظّم ناصح الملوك و السّلاطين
كافي العصر و الزّمان الغ مرابطخان دامت معاليه في زمن الملك العادل
الباذل الفاضل العالم ركن الدّنيا و الدّين ابو المظفّر باربكشاه السّلطان
بن محمود شاه سلطان خلّد اللّه ملكه و سلطانه و اعلى امره و شانه في
الخامس من رجب رُجب قدره سنه ثمان و ستّين و ثمانماية ||

God Almighty says [Qorán IX, 9], 'Do you take the giving drink to the pilgrims and the frequenting of the Holy Masjid in value to be equal to him who believes in God and the last day and exerts himself on the road of God? They are not equal in value in the eyes of God; for God does not direct unrighteous people.' The Prophet (blessings on him!) has said, 'He who builds, &c., (as above). This Jámi' mosque in the town of Tírúábád was built by the great Khán, the exalted Kháqán, the adviser of kings and rulers, who is a sufficient protection against the [evils of the] age, Ulugh Murábiṭ Khán,—may his high qualities endure!—in the time of the just, liberal, learned, and wise king Ruknud-

dunyá waddín Abul Muzaffar* Bárbak Sháh, the king, son of Mahmúd Sháh, the king—may God perpetuate &c., !—on the 5th Rajab (may its honor increase !) of the year 868 [4th March, 1464].

On the mosque itself is a smaller inscription in four compartments. I have not deciphered the whole.

قال النّبيّ صلّي اللّه عليه و سلّم من بني مسجدا في الدّنيا بني
اللّه تعالى له سبعين قصورا في الجنّة * .. المسجد في القصبة المبارك
تيروابادٰ عرف ديوتا في العهد * * * * كشاه خلّد اللّه ملكه و اعلي
امره و شانه سلّمه اللّه تعالى في الدّارين

The Prophet (blessings on him !) says, 'He who builds, &c., [as above]. This mosque (was built) in the blessed town of Tírúábád, generally known (*'urf*) as Deotaláo, in the reign of.....k Sháh,—may God perpetuate his kingdom and rule and elevate his condition and dignity !—by [Ulugh Murábiṭ Khán]..., may God protect him in both worlds !.....

The wanting portions seem to contain the name of Ulugh Murábiṭ Khán, and at the end the words—

الي شهور سنه ثمان سبعين تسعماية *up to the year* 978 (?)

'Murábiṭ' means 'guarding the frontiers.' The name 'Tírúábád' appears to be no longer known.

Shamsuddi'n Abul Muzaffar Yu'suf Sha'h.

(Fourteenth king.)

According to the histories, Bárbak Sháh died in 879 A. H. The latest hitherto ascertained date is 873 ; but the Persian MS. on Sháh Ismá'íl Ghá-

* This seems to be a mistake for *Abul Mujáhid.* The old Persian Dictionary, entitled 'Sharafnámah i Ibráhímí,' which is dedicated to Bárbak Sháh, has also 'Abul Muzaffar'; but as we know nothing regarding the author or his native town, and nothing definite regarding the year in which he completed his dictionary, it is possible that the Bárbak Sháh, to whom he dedicated his dictionary, is the Bárbak Sháh of Jaunpúr, who ruled in Jaunpúr from 879 (the year when the Bengal Bárbak Sháh is said to have died) to 881. Later, he was restored by Sikandar Lodí. Mr. Thomas (Chronicles, p. 877) has coins of 892 and 894; but they contain no *julús*-name. *Vide* Journal, A. S. Bengal, 1868, p. 8.

The *kunyah* of Muzaffar Sháh of Bengal, I believe, to be Abul-Naçr, as given on inscriptions ; and I believe the coin published in Journal, 1873, p. 312, gives this name likewise.

A similar confusion may be noticed in the *kunyah* of Aurangzíb, which is *Abul-Zafar,* ابوالظفر, as given in the histories and on coins ; but many inscriptions of his reign have the more common Abul Muzaffar.

The most common *kunyahs* of Indian kings are Abul-Muzaffar, Abul-Mujáhid, Abul-Fath, Abul-Zafar, Abul-Naçr, Abú Naçr, Abul-Mahámid, Abul-Ma'álí, and Abul-Barakát ; but there are not many more.

zí of Rangpúr discovered by Mr. Damant, furnishes some evidence of the correctness of the histories, inasmuch as the MS. states that Ismá'íl was in 878 beheaded by Bárbak Sháh.

The following inscription of Yúsuf Sháh seems to be of 870 A. H. If the date is correct, the inscription can only refer to Yúsuf as prince or governor; and this supposition is strengthened by the absence of the formula *khallada alláhu mulkahu, &c.*, which is due to the reigning king.

No. 4. *The Yúsuf Sháh Inscriptions of Old Máldah*, A. H. 870.

Mr. Westmacott says, "I went to a mosque at Shánk Mohán in Old "Máldah, and saw there two inscriptions; but the slabs had been washed "over and over again with pitch and oil, doubtless with most laudable mo- "tives, but to such an extent that to take a good rubbing is out of the ques- "tion." "One of the inscriptions is 2 ft. 6 in. by 11 inch., in one line, and the date appears to be *sab'ín wa samánmiah*, 870."

The word *sanah* before the date is certainly doubtful; and the date may therefore be 876, or even 879.

قال النّبيّ صلّى اللّه عليه وسلّم من بنى مسجدا بني اللّه له قصرا فى الجنّة * في زمن الملك شمس الدّنيا و الدّين ابو المظفّر يوسف شاه السّلطان بن باربكساه السّلطان بن محمود شاه السّلطان .. المسجد الملك التّاريخ .. جمادى اوّل من سنة سبعين و ثمانماية ا ا

The Prophet (upon whom be peace!) has said, 'He who builds, &c., [as above]. In the time of the.....king Shamsuddunyá waddín Abul Muzaffar Yúsuf Sháh, the king, son of Mahmúd Sháh, the king.....this mosque the Malik dated Jumáda I, of the year 870.

The other inscription is a long narrow slab and contains two lines—

بسم الله الرحمن الرحيم لا اله الا الله * يقول العبد في بدو الامال
و موصوف باوصاف الكمال هو الحي و القيوم .. جناب مجلس الشرف ..
عين عنايات بني هذا المسجد مجلس الشرف .. الرجل شهر مبارك

The first line belongs to an Arabic *lámiyah* ode (metre, *hazaj*). Unfortunately, Mr. Westmacott had to leave Máldah, before the stones could be thoroughly cleaned.

Saifuddi'n Abul Muzaffar Fi'ru'z Sha'h (II).

(Eighteenth king.)

Mr. Westmacott found two inscriptions of this king, for whose reign we had hitherto no mural evidence.

The first inscription is dated 15th Çafar, 894, and is from Goámáltí Factory, within the precincts of Gaur. The letters are beautiful.

No. 5. *The Fírúz Sháh (II) Inscription of Goámáltí.* A.H. 894.

Mr. Westmacott says—"I think it most probable that the slab belonged originally to a mosque of which the ruins lie a couple of a hundred yards S. E. of the Factory. A row of four granite pillars, ten feet apart, and a corresponding pillaster; the northern wall built of brick with a course of granite, some of which is cut into a moulding; and a pinnacle at the south-western angle, still remain to shew that it was a fine building, with probably ten domes, in two rows, the length of the building from N. to S. being divided by the row of pillars. It has been deeply trenched, probably for the bricks. It is about a hundred yards to the eastward of an embankment which extends northwards, past Sa'dullahpúr, to the tomb of Shaikh Akhí Sirájuddín, commonly called Jhunjhuniyah, at Komolabárí, at the N. W. angle of Ságardig'hí. Southwards I do not know the line of the embankment. It is called 'garh,' or 'fort.' Goámáltí lies about 5 miles S. of the station of English Bazar, and was the residence of the archæologist Mr. Creighton, who has written a monograph on Gaur. Three of Mr. Creighton's children are buried at Goámáltí, A. D. 1800 and 1802."

قال النّبيّ صلّى اللّه عليه و سلّم من بني مسجدا فى الدّنيا بني
اللّه تعالى له سبعين قصرا في الجنّة * بني هذا المسجد الخ
اعظم و خاقان معظّم پهلوي عصر مخلص خان في عهد
سلطان الاعظم المعظّم العادل سيف الدّنيا و الدّين ابو المظفّر فيروز شاه
سلطان خلّد اللّه ملكه و سلطانه و اعلي امره و شانه في الخامس عشر
من شهر صفر سنة اربع و تسعين و ثمانمائة ا

The Prophet (blessings on him) says, 'He who builds, &c. &c.,' This...mosque was built by the great Ulugh, the exalted lord,.....Mukhliç Khán,.....in the reign of the great, exalted, liberal, and just king Saifuddunyá waddín Abul Muzaffar Fírúz Sháh, the king,—may God perpetuate his kingdom and his rule and elevate his condition and dignity!—on the 15th Safar, 894 [18th January, 1489].

I have also since found in the coin cabinet of our Society a rather defaced specimen of a Fírúz Sháhí of 893, as figured on p. 288 of last year's Journal. It weighs 163·37 grains.

No. 6. *Another Fírúz Sháh Inscription from Máldah.*

Mr. Westmacott's second inscription of this king is from the Kaṭrah, or the old Fort, of Old Máldah. Buchanan says, it was a sarái, but it seems to be fortified. The date of the inscription is illegible.

قال النّبيّ صلّى عليه و سلّم من بني مسجدا بني الله له سبعين
قصرا فى الجنّة * وقد بني هذا المسجد السّلطان العادل سيف الدّنيا و
الدّين ابو المظفر فيروز شاه سلطان خلّد الله ملكه و سلطانه و بانى هذا
المسجد مجلس و هو سعيد .. مؤرّخا سنه ثمانماية ||

The Prophet, upon whom be peace, has said, 'He who builds, &c. This mosque was built [in the time of ?] of the just king Saifuddunyá waddín Abul Muzaffar Fírúz Sháh, the king—may God perpetuate his kingdom and his rule! And the builder of this mosque is Majlis.....namely Sa'íd ..dated anno 8..

No. 7. *The Fírúz Sháh Inscription from Garh Jaripá, Sherpúr, Maimansingh District.*

The slab of this inscription is now in the Museum of the Society, and was received, as I stated above (p. 282) from Bábu Hara Chandra Chaudhurí, of Sherpúr. It is of granite and measures 4 ft. by 2 ft.; but the letters are very unclear, and many are hopelessly broken away. The inscription seems to have belonged to a vault. In each corner of the slab is a square, containing the name of one of the first four Khalífahs; the two squares on the left and those on the right are joined by vertical lines, but the letters between each set of squares are illegible. The slab was entire; but an elephant put his foot on it, and the right side of the stone broke in two. The inscription itself consists of four lines. I have deciphered the following—

بسم الله الرحمن الرحيم لا اله الا الله محمد رسول الله .. لا اله الا الله ..
محمد رسول الله اللهم صل علي محمد المصطفى و علي المرتضى
و الفاطمة الزهراء و الحسن و الحسين بني ..
سلطان العهد و الزمان سيف الدنيا و الدين ابو المظفر فيروز شاه سلطان
خلد الله ملكه و سلطانه تم هذه (مقبرة ؟) رمضان .. مبارك
سنه ثمانماية ||

In the name of God, the merciful, the clement! There is no God but Allah, Muhammad is Allah's prophet.....there is no God but Allah, ...Muhammad is Allah's prophet.....O God, bless Muhammad, the elected, and 'Alí, the chosen, and Fátimah, the pure, and Hasan...and Husain..... built.....the king of the age and the period Saifuddunyá waddín Abul Muzaffar Fírúz Sháh, the king,—may God perpetuate his kingdom and his rule! This [vault?] was completed in the blessed... Ramazán, 8**

'Ala'uddi'n Abul Muzaffar Husain Sha'h.

(Twenty-first king.)

Of this king no less than seventeen inscriptions have been published in this Journal.* They give the years 903, 907, 908, 909, 911, 915, 916, 918 922, 925. Mr. Westmacott found in Máldah six new ones of 899, 900, 907, 910, 914, 918, 923; and Mr. J. R. Reid, C. S., has sent me two of 906 and 909 from Sáran.

Husain Sháh's coins, as far as hitherto known, give the years 899, 900, 912, 914, 918, 919. Of coins, I can give two new ones, *viz.*, a small silver coin of 899, from the cabinet of our Society, and a unique gold coin of 907, which Col. Hyde and I lately purchased at a podár's shop in Calcutta for the cabinet of the Society.

1. *Vide* Pl. XIII, No. 3. Silver. Weight, 166·89 grains. No mint-town. A. H. 899. (As. Soc. Bengal, one specimen.) Circular areas. No margin.

OBVERSE—علاؤالدنيا والدين ابوالمظفر حسين شاه السلطان خلد الله ملكه وسلطانه

REVERSE—لا اله الا الله محمد رسول الله خراج ٨٩٩

'Alaúddunyá waddín Abul Muzaffar Husain Sháh, the king,—may God perpetuate his kingdom and his rule!

There is no God but Allah; Muhammad is Allah's prophet. Land Revenue (*kharáj*), 899.

2. *Vide* Pl. XIII, No. 4. Gold. Unique. Weight, 164·33 grains. Muzaffarbád, 907. (As. Soc. Bengal.) Circular areas. In the margin, twelve spearheads.

OBVERSE—علاء الدنيا و الدين ابو المظفر حسين شاه سلطان ابن سيد اشرف حسيني خلد الله ملكه

REVERSE—لا اله الا الله محمد رسول الله مظفرباد ٩٠٧

'Aláuddunyá waddín Abul Muzaffar Husain Sháh, the king, son of Sayyid Ashraf the Husainí—may God perpetuate his kingdom!

There is no God but Allah; Muhammad is Allah's prophet. Muzaffarbád [Muzaffarábád], 907.

No. 8. *The Husain Sháh Inscription of* 899.

Mr. Westmacott found this inscription on the premises of one Pat'hú Khán at Máldah, not *in situ*, at the tomb he calls the "Dargáh i Aulád Sulţán Ádam Balkhí," or 'the shrine of the descendants of Sulţán Ádam of Balkh.' Sulţán Ádam's name is not given in biographical works of Saints in my possession.

* *Vide* Journal, 1873, Pt. I, p. 292, and Journal 1872, p. 106.

قال النّبيّ صلّى اللّه عليه و سلّم من بنى مسجدا للّه بني اللّه له
قصرا مثله في الجنّة * بني في عهد السّلطان علاؤ الدّنيا و الدّين ابو
المظفّر حسين شاه السّلطان خلّد اللّه ملكه و سلطانه بني هذا المسجد
مجلس راحت في العشر ذي القعدة من سنة تسع و تسعين وثمانماية ||

The Prophet says (God's blessings on him!), 'He who builds a mosque for God, will have a castle like it built for him by God in Paradise.' It was built in the reign of Sultán 'Alá uddunyá waddín Abul Muzaffar Husain Sháh, the king—may God perpetuate his rule and kingdom! This mosque was built by Majlis Ráhat [ullah], on the 10th Zí Qa'dah, 899 [13th August, 1494].

The inscription seems to have been carved by the same hand as the Muzaffar Sháh inscription of 898, of which I gave a facsimile in my former essay.

No. 9. *The Husain Sháh Inscription of* 900.

This inscription was found by Mr. Westmacott on a neat little mosque, utterly ruined, just outside the Máldah *Katrah*. The Mosque is called 'Fautí Masjid,' or 'Burial Mosque.' "The *Katrah*," Mr. Westmacott says, "is called by the people a Saráí for travellers; but from its strength, "and the depth of the gateways, I still think it must have been a fort, per- "haps used as a Saráí latterly. It is just opposite a curious tower on the "Nímah Saráí side of the Mahánandá River, stuck all round with slabs of "stone, which look as if they been intended to support the builder's scaffold- "ing, and have never been removed."

قال النّبيّ صلّى اللّه عليه وسلّم من بني مسجد اللّه بني اللّه له قصرا مثله
فى الجنّة * بنى في عهد السّلطان المؤيّد بتائيد الدّيّان المجاهد في
سبيل الرّحمن خليفة اللّه بالحجّة و البرهان علاؤ الدّنيا و الدّين ابو المظفّر
حسين شاه السّلطان خلّد اللّه ملكه وسلطانه بني هذا المسجد خانمعظّم
بن الغ شير في الحادي العشر شوّال من سنة تسعماية ||

The Prophet (God's blessings on him!) says, 'He who builds a mosque for God, will have a castle built for him by God in Paradise.' It was built in the time of the king who is assisted by the assistance of the Judge, and exerts himself on the road of the Merciful, the Khalífah of God by proof and evidence, 'Aláuddunyá waddín Abul Muzaffar Husain Sháh, the king,—may God perpetuate his kingdom and rule! This mosque was built by Khán Mu'azzam, son of Ulugh Sher, on the 11th Shawwál, 900 [5th July, 1495].

No. 10.* *The Inscription of Husain Sháh's Madrasah at Gaur.* A. H. 907.

Mr. Westmacott found this interesting inscription on a little mosque near the Thánah at English Bázár. The stone is, therefore, not *in situ*, and may have belonged to the Madrasah, the ruins of which he states to exist in Gaur.†

The beginning of this inscription, 'Search after knowledge even as far as China,' is a well known saying of the Prophet, and is often in modern times quoted by Muhammadans in connexion with the spread of English education in the East.

The inscription is free from grammatical mistakes.

قال النّبيّ صلّي اللّه عليه و سلّم اطلبوا العلم ولو بالصّين * امر ببناء
هذه المدرسة الشريفة السّلطان الاعظم الاكرم سيّد السّادات منبع السّعادات
المجاهد في سبيل اللّه المنّان الفاتح للكامرو و الكامتة بعون الرّحمٰن علاء
الدّنيا و الدّين ابو المظفّر حسين شاه السّلطان الحسينيّ خلد اللّه ملكه
لتدريس علوم الدّين و تعاليم احكام اليقين راجيا من اللّه الاجر العظيم و
سائلا منه رضوانه القديم في غرّة شهر رمضان سنة سبع و تسعماية ||

The Prophet (God's blessings on him !) has said, 'Search after knowledge, and if it were in China.' This excellent Madrasah was ordered to be built by the great and generous king, the Sayyid of the Sayyids, the source of auspiciousness, who exerts himself on the road of God the All-giver, the conqueror of Kámrú and Kámtah with the help of the Merciful, 'Alá uddunyá waddín Abul Muzaffar Husain Sháh, the king, the Husainí—may God perpetuate his kingdom !—for the teaching of the sciences of religion and instruction in those orders which alone are true, because he hopes to obtain from God the great reward and asks Him for His everlasting mercy, on the 1st Ramazán, 907 [10th March, 1502].

* Mr. Westmacott also sent me rubbings of several inscriptions from Hemtábád, Western Dínájpúr. Among them was an incomplete Husain Sháhí of A. H. 906; a large circular inscription, containing Qor. 48, 27; and a tomb inscription of one Shaikh Jamáluddín bin Makhdúm Shaikh.

† The removal of inscriptions from Gaur may have been the cause of their preservation. We know from Grant's Essay (Vth Report, p. 285) that the *Nizámat Daftar* contained an entry of Rs. 8000 under the head of *qímat khishtkár*, which was annually levied from a few landholders in the neighbourhood of Gaur, who had the exclusive right of "dismantling the venerable remains of the ancient city of Gaur or Lak'hnautí, and conveying from thence a particular species of enamelled bricks, surpassing in composition the imitative skill of the present race of native inhabitants."

No. 11. *The Husain Sháh Inscription from Sáran.* A.H. 909.

This inscription was sent me by Mr. J. R. Reid, C. S., A'zamgarh, N. W. Provinces.*

قال النّبيّ صلّي اللّه عليه و سلم من بنى مسجدا للّه بنى اللّه له بيتا مثله في الجنّة * بني هذا المسجد الجامع السّلطان المعظّم المكرّم علاء الدّنيا و الدّين ابوالمظفّر حسين شاه السّلطان بن سيّد اشرف الحسيني خلّد اللّه ملكه و سلطانه في سنة تسع و تسعماية ||

The Prophet, &c., &c.. (as above). This Jámi' mosque was built by the exalted and honoured king, 'Alá uddunyá waddín Abul Muzaffar Husain Sháh, the king, son of Sayyid Ashraf, Al-Husainí—may God perpetuate his kingdom and his rule!—in the year 909 [1503-4].

No. 12. *The Husain Sháh Inscription* of 910 A. H. *from Máldah.*

Mr. Westmacott found this inscription preserved in the mosque of Muçtafá Khán at Gílábárí, Máldah. Gílábári is about five miles below English Bázár, on the western bank of the Mahánandá. The mosque is built from materials taken from the ruins of Gaur, and the people say that the slab, too, which must have belonged to a gate, came from there.

قد بنى هذا الباب في عهد السّلطان المعظّم المكرّم علاؤ الدّنيا و الدّين ابو المظفّر حسين شاه السّلطان ابن سيّد اشرف الحسيني خلّد اللّه ملكه و سلطانه في سنة عشر و تسعماية ||

This door was built in the time of the exalted and honored king, 'Aláuddunyá waddín Abul Muzaffar Husain Sháh, the king, son of Sayyid Ashraf Al-Husainí—may God perpetuate his kingdom and his rule!—in the year 910 [A. D. 1504-5].

* Mr. Reid also sent me a rubbing of a Husain Sháh inscription from Ismá'ílpúr in Sáran. The right hand half of the slab is wanting. The left portion is—

.... وهو السلطان الاعظم المعظم و الامام الغالب المكرم المجاهد على اعداء الله المظهر لكلمة الله المنسوب الى حضرت رسول الله صلي الله عليه و سلم
.. مجلس المجالس الملقب بسحابدل لا زالت سخاوته باقية الى يوم الدين وثابتة الى ان ياتيه اليقين في شهر النبي الشعبان سنة ست و تسعماية ||

.....namely the great and exalted king, and the victorious, liberal Imám, who exerts himself against the enemies of God, who professes the true faith, who traces his descent from the Prophet of God.....the Majlis ul-Majális who is known as the "Shower-heart" [*i. e.* the liberal]—may his generosity last to the day of judgment and endure till the truth comes to him! In the month of the Prophet, Sha'bán, 906 [March, 1501].

The month of Sha'bán is often called 'the month of the Prophet,' just as Rajab is called *shahr ullah*, 'the month of God.'

No. 13. *The Inscription from Husain Sháh's Mosque in Máldah.* A. H. 914.

The reading of this inscription is by Mr. Westmacott, who found the slab attached to a modern mosque in Máldah.

قال النّبيّ صلّي اللّه عليه و سلّم من بنى مسجدا للّه بني اللّه له بيتا مثله في الجنّة * بني هذا المسجد الجامع السّلطان المعظّم المكرّم علاو الدّنيا والدّين ابو المظفّر حسين شاه السّلطان ابن سيّد اشرف الحسيني خلّد اللّه ملكه و سلطانه سنة اربع عشر و تسعماية ||

The Prophet, &c., &c., (as above). This Jámi' mosque was built by the exalted and honored king, 'Alá uddunyá waddín Abul Muzaffar Husain Sháh, the king, son of Sayyid Ashraf, Al-Husainí—may God perpetuate his kingdom and his rule!—in the year 914 [A. D. 1508].

No. 14. *Inscription from Husain Sháh's Mosque at Molnatalí, Máldah.* A. H. 918.

Mr. Westmacott found this inscription together with one of Nuçrat Sháh (*vide* below No. 16) at Molnatalí [Maulánátalí ?], about a mile south of old Máldah, in a little mud hut. "Both inscriptions," he says, "are placed side by side face upwards, on the ground, and are said to cover the grave of a Pír, called Sulţán Shihábuddín, at which a lamp is kept burning. The people say, he left the throne and became a Faqír. Could this be your Shihábuddín Báyazíd Sháh?"

قال النّبيّ صلّي اللّه عليه و لّم من بنى مسجدا للّه بني اللّه له بيتا مثله في الجنّة * بني هذا المسجد السّلطان المعظّم المكرّم علاؤ الدّنيا والدّين ابو المظفّر حسين شاه السلطان بن سيّد اشرف الحسيني خلّد اللّه ملكه و سلطانه سنة ثمان عشر و تسعماية ||

The Prophet, &c., &c., (as above). This mosque was built by the exalted and honored king 'Alá uddunyá waddín Abul Muzaffar Husain Sháh, the king, son of Sayyid Ashraf, Al-Husainí—may God perpetuate his kingdom and his rule!—in the year 918 [A. D. 1512].

No. 15. *Inscription from Daulat Názir's Mosque at Bholáháţ.* A. H. 923.

The builder of this mosque, to judge from his name, was a Eunuch.

Mr. Westmacott found the inscription at Bholáháţ, which lies near Gílábárí, mentioned on p. 304, on the western bank of the Mahánandá, below English Bázár.

قال النّبيّ صلّي اللّه عليه و سلّم من بني مسجدا للّه بنى اللّه له
بيتا مثله في الجنّة * بني هذا المسجد فى عهد السّلطان المعظّم المكرّم
علاء الدّنيا و الدّين ابو الظّفر حسين شاه السّلطان بن سيّد اشرف الحسيني
خلّد اللّه ملكه و سلطانه و اعلى امره و شانه و بانيه دولت ناظر دام عزه
في سنة ثلث و عشرين و تسعماية ||

The Prophet, &c., &c., (as before). This mosque was built in the reign of the exalted and honored king 'Alá uddunyá waddín Abul Muzaffar Husain Sháh, the king, son of Sayyid Ashraf, Al-Husainí—may God perpetuate his kingdom and his rule and elevate his condition and dignity! Its builder is Daulat Názir,—may his honor continue!—in the year 923 [A. D. 1517.]

Na'siruddi'n Abul Muzaffar Nusrat Sha'h.

(Twenty-second king.)

The year of Nuçrat Sháh's* accession still remains doubtful; but it is now certain that his death took place in the middle of 939 A. H., or about January, 1533.

The histories state that Husain Sháh died in 927; but the last ascertained date is 925. The Nuçrat Sháh inscriptions hitherto published, including those given below, are of 929, 930, 933, 935, 936, 937, 938. For the year 939, we have (1) the coins of his son Fírúz Sháh (III), who is said to have reigned three months; (2) a Fírúz Sháh inscription of *Ramazán*, 939; and (3) the coins of his uncle Mahmúd Sháh (*vide* pl. XIII, No. 10); hence Nuçrat Sháh must have died in the middle of 939.

As explained by me in Journal for 1873, p. 297, Nuçrat Sháh's coinage shews the early dates 922, 924, 927, and I shall enumerate below new varieties of his coinage from the specimens preserved in the Society's cabinet.

No. 16. *The Nuçrat Sháh Inscription from Fath Khán's Mosque, Máldah*, A. H. 930.

The following inscription was found by Mr. Westmacott together with No. 14, given above, at Molnatalí, over the grave of 'Sulţán Shihábuddín.' It refers to a mosque entrance built by one Fath Khán.

* I find that Bábar calls this king by his correct royal name, not Naçíb Sháh. *Vide* Dowson, IV, 260; also Akbarnámah, I, 160.

Bábar was Nuçrat Sháh's contemporary. Another renowned contemporary was Chaitanya, the son of a Silhaţ bráhman, who founded the sect of the Vaishnawís (Boishtobs). According to Bengali accounts, Chaitanya was born in Nadiyá, to which place his father had removed, in 1485, *i. e.* during the reign of Fath Sháh.

بني هذا الباب المسجد في عهد السّلطان المعظّم المكرّم السّلطان
بن السلطان ناصر الدّنيا و الدّين ابو المظفّر نصرتشاه السّلطان بن حسين
شاه السّلطان خلّد اللّه ملكه وسلطانه و اعلي امره و شانه و بانيه خانمعظّم
فتحخان دام علوّه في سنه ثلثين و تسعماية ||

The door of this mosque was built in the reign of the exalted and honored king, son of a king, Náçir uddunyá waddín Abul Muzaffar Nuçrat Sháh, the king, son of Husain Sháh, the king,—may God perpetuate his kingdom and his rule, and may He elevate his condition and dignity! Its builder is Khán Mu'azzam Fath Khán—may his exalted position last!—in the year 930 [A. D. 1524].

No. 17. *The Nuçrat Sháh Inscription from Gaur.* A.H. 933.

The slab of this inscription is now in the Society. It was received together with the Bárbak Sháh Inscription of 865, given above, from Dr. G. Smith, late of Serampore.

قال النّبيّ صلّي اللّه عليه و سلّم من بني مسجدا للّه بني اللّه له
بيتا مثله في الجنّة * بني هذا المسجد الجامع في عهد السّلطان العالم
السّلطان بن السّلطان ناصر الدّنيا و الدّين ابو المظفّر نصرتشاه السّلطان
ابن حسين شاه السّلطان خلّد اللّه ملكه و بانيه المجلس سعد دام علوّه
في سنة ثلث و ثلثين و تسعماية ||

The Prophet, &c., &c., (as before). This Jámi' mosque was built in the reign of the learned king, the king who is the son of a king, Náçir uddunyá waddín Abul Muzaffar Nuçrat Sháh the king, son of Husain Sháh, the king,—may God perpetuate his kingdom! Its builder is Majlis Sa'd,—may his exaltation endure! In the year 933 [A. D. 1527].

No. 18. *The Nuçrat Sháh Inscription of Máldah.* A. H. 935.

Mr. Westmacott found this inscription let into the tomb of a saint, called Nankápatí Sáhib, about a mile south of Máldah; but it commemorates the building of a mosque entrance by one Khalf Khán, son of Majlis Qará—a Turk, to judge from his name.

بني هذا الباب المسجد الجامع في عهد الملك العادل السّلطان بن
السّلطان ناصر الدّنيا و الدّين ابو المظفّر نصرتشاه السّلطان بن حسين شاه

السّلطان خلّد اللّه ملكه و سلطانه و بانيهٔ خانمعظّم خلفخان بن مجلس
قرا في سنة خمس و ثلثين و تسعماية ||

The door of this Jámi' Mosque was built in the time of the just king, the Sulṭán, son of Sulṭán, Náçir uddunyá waddín Abul Muzaffar Nuçrat Sháh, the king, son of Husain Sháh, the king—may God perpetuate his kingdom and his rule! Its builder is Khán Mu'azzam Khalf Khán, son of Majlis Qará. In the year 935 [A. D. 1528-29].

No. 19. *The Nuçrat Sháh Inscription of Máldah.* A. H. 938.

This inscription, which is of importance on account of its date, commemorates the building of a well by one Bonámáltí. The slab is small and was found by Mr. Westmacott lying on the grave of a widow in Cholsápárá, Old Máldah.

The name Bonámáltí is doubtful: the first two syllables have no diacritical points in the inscription.

قال اللّه تعالى من جاء بالحسنة فله عشر امثالها * بني هذه
السّقاية في عهد السّلطان السّلطان بن السّلطان ناصر الدّنيا و الدّين ابو المظفّر
نصرتشاه السلطان بن حسين شاه السّلطان خلّد اللّه ملكه و سلطانه و
بانيه بوماالقي في سنة ثمان و ثلثين و تسعماية ||

God Almighty has said, 'He who comes with a good deed, to him (will be) ten similar ones.' This well was built in the reign of the king, the king who is the son of a king, Náçir uddunyá waddín Abul Muzaffar Nuçrat Sháh, the king, son of Hussain Sháh, the king,—may God perpetuate his kingdom and his rule! Its builder is Boná máltí. In the year 938 [A. D. 1531-32.]

No. 20. *The Nuçrat Sháh Inscription from Majlis Siráj's Mosque, Máldah.*

This is a mere fragment of an inscription. Mr. Westmacott found it in the Chillah, or prayer-cell, of the Saint Quṭb 'Álam, on the northern bank of the Kalindrí River, at Solpúr Nagrai, nearly opposite Gangarámpúr Factory, 6 miles above Old Máldah.

قال النّبيّ صلّي اللّه عليه و سلّم من بني مسجدا للّه بني اللّه
له بيتا مثله في الجنّة * بني هذا المسجد الجامع في عهد السّلطان
بن السّلطان * * * و الدّين ابو المظفّر نصرتشاه السّلطان بن حسين شاه
السّلطان خلّد اللّه ملكه و سلطانه و بانيه مجلس سراج * * * *

The Prophet, &c., &c., (as above). This Jámi' mosque was built in the time of the king, the son of the king [Náçiruddunyá] waddín Abul Muzaffar Nuçrat Sháh, the king, son of Husain Sháh, the king—may God perpetuate his kingdom and his rule! Its builder is Majlis Siráj * * * *

Of Nuçrat Sháh's coinage I have given on Pl. XIII five new varieties from the Cabinet of the As. Society. The legend is the same on all of them, dates and mint towns excepted.

OBVERSE—السلطان بن السلطان ناصر الدنيا و الدين ابو المظفر

REVERSE—نصرتشاه سلطان بن حسين شاه سلطان الحسيني خلد ملكه نصرتاباد ٩٣٥

OBVERSE—The king, son of a king, Náçiruddunyá waddín Abul Muzaffar

REVERSE—Nuçrat Sháh, the king, son of Husain Sháh, the king, the Husainí, —may God perpetuate his kingdom and his rule!

No. 5, Pl. XIII, weighs only 160·06 grains, and resembles No. 6, which weighs 164·32 grains. Both specimens are struck at Nuçratábád, and No. 6 bears the date 930 A. H. Nos. 7, 8, 9 are of rude manufacture, and weigh 163·97, 163·8, 163·72 grains, respectively. They belong to the time before the death of Nuçrat Sháh's father; for they bear the dates 923 (No. 9) and 924 (Nos. 7, 8). In all of them the figure 2 is inverted, and has therefore the same shape as a 6 (٦). No. 7 seems to bear on the obverse the mint-town of Khalífatábád.

On comparing the artistic skill displayed by the die-cutters with that of the engravers of Bengal inscriptions of the same period, one cannot help being surprised at the deficiency and absolute want of the former and the high perfection of the latter.

Ghiya'suddi'n Abul Muzaffar Mahmu'd Sha'h (III).

(Twenty-fourth king.)

I mentioned above that the reign of this king commenced in the end of 939. This is proved by the following coin—

Vide Pl. XIII, No. 10. Silver. Weight, 167·53 grains. (Col. H. Hyde). A. H. 939. Husainábád.

OBVERSE—السلطان بن السلطان غياث الدنيا و الدين ابو المظفر محمود شاه

REVERSE—السلطان بن حسين شاه السلطان خلد الله ملكه و سلطانه حسيناباد ٩٣٩

Circular Area in the middle of Obverse and Reverse—بدر شاهي

OBVERSE—The king, son of a king, Ghiyásuddunyá waddín Abul Muzaffar Mahmúd Sháh,

REVERSE—The king, son of Sultán Husain Sháh, the king,—may God perpetuate his kingdom and his rule! Husainábád, 939.

Circular area on Obverse and Reverse.—The royal moon.

A daughter of Mahmúd Sháh was married to Khizr Khán,* Sher Khán's governor of Bengal.

* *Vide* Dowson IV, 390, where he is called 'Bairak,' and V, 115, where he is called 'Surk.'

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Part I.—HISTORY, LITERATURE, &c.

No. IV.—1874.

The Temple of Jayságar, Upper Ásám.—*By* J. M. Foster, F. S. A., *Názirah, Ásám.*

(With four plates.)

This temple, situated on the north bank of an immense tank, two and a half miles south of Síbságar (the ancient Rangpúr) in Upper Ásám, Lat. 26° 54′ N., Lon. 94° 40′ E., is not remarkable, when compared with many similar edifices in Central India, for its antiquity, ornamentation, or historical associations, but is of considerable interest from its being probably the most perfect specimen of stone architecture existing in Upper Ásám, and its having been erected at the time when the Hindú religion was first firmly established in the country, which was for once in its history in a state of peace under an energetic and competent ruler.

The occasional earthquakes, the destructive influences of the weather and the pípal tree, combined with the fact that no proper plans or drawings of most of the ancient edifices in Ásám have been made, rendered it desirable that some memorial of this temple should be preserved, as its destruction at a not very remote period may be anticipated. The cold weather of 1873-4 having set in, a small camp was formed, the jungle was removed from the edifice as far as practicable, and careful measurements were made of the most interesting parts of it. The photograph by Mr. H. A. Coombes, Superintendent of Police for this district, gives a very fair idea of the edifice and its decorations (*vide* plates).

The tank upon the bank of which this building is situated is very large, even for Ásám, its dimensions according to the Revenue Survey map being 900 by 650 yards, the 'bund' being about 120 feet wide on the top, and its

depth is stated to be thirty-six feet in the centre; the water level is about two feet above that of the surrounding country, and was formerly much more until the bund was cut through for some now unknown purpose. The earth removed during the excavation was used to form the banks. In its immediate neighbourhood are two other immense tanks, the Othae and Rudra Ságar, which are now dry and were probably never completed.

A slight historical sketch of the causes that led to the formation of this temple and tank will probably be found interesting. During the reign of Gadhádhar Singh, *alias* Chupatpha, (died A. D. 1625) the Moamariahs or Muttacks (a people living in the north and north-east of Ásám, who were divided into two clans, the Moamariahs so called from their being a distinct sect from the generality of Asamese, and the Morans, signifying 'inhabitants of the jungle') gave great trouble by incessantly making war upon and plundering their more peaceable southern neighbours. At last they became so powerful, that they elected a chief ruler of their own under the title of the Loŕá Rájá, who completely defeated Gadhádhar Singh, and took possession of the country as far south as Jorhát.*

According to the native MS. Chronicles, Gadhádhar Singh escaped to the jungles after his defeat, whilst his wife Jaymatí Koorie was captured by the Loŕá Rájá and tortured by him to give information as to her husband's place of refuge. In the centre of the Jayságar Tank a post now stands: at this spot she is said to have been daily flogged, but without its producing the desired effect. On being questioned as to his whereabouts, and a promise being made that she should be liberated if she would give the necessary information, she replied that she had not seen him for a long time. Gadhádhar Singh hearing of this presented himself one day in disguise before her, and asked her why she did not point him out to his enemies. She at once recognized him, but refused to betray him. Addressing him as a friend of her brother, she told him to leave her to her fate, as his submission to the Loŕá Rájá could be of no advantage to either. Three times this scene was repeated, and finally Jaymatí Koorie told him she would insult him if he troubled her any more. He at length left for the jungle, and she, faithful to the last, died under her tormentor's hands.

Now Gadhádhar Singh's sister was married to the Bor Phúkan, who lived at Gauhaṭṭí and was an ally of the Loŕá Rájá; Gadhádhar Singh took refuge in his house, and was so well disguised, that he remained there in safety, being known to his sister only, for two years or more. Ultimately,

* It may here be noted that the Momariahs kept rising in rebellion with varying success until the Government was assisted by a British force in 1793. Ghargion, the old capital, Rangpúr, the new one, Jayságar tank, Gauríságar tank, and other places, were frequently scenes of most sanguinary battles, the fights on several occasions lasting three days.

a misunderstanding between the Bor Phúkan and the Lorá Rájá occurred. The wife then revealed all to her husband; he and Gadhádhar Singh raised strong forces, marched to Ghargáoṇ, captured it, killed the Lorá Rájá, and reinstated Gadhádhar Singh on the throne of his ancestors. With true oriental gratitude, he was no sooner firmly seated than he put to death his brother-in-law, the Bor Phúkan, and two other of the highest officers of State who had also assisted him, alleging as his reason that as they were powerful enough to depose and kill the Lorá Rájá, they might possibly serve him in a similar manner, should any quarrels arise between them. He did not live long after his restoration, and was chiefly occupied in restoring order throughout the country; and he strictly enjoined his son Rudra Singh to build a temple on the spot where his mother was put to death, and to call it after her name. This was done, and Jayságar Dhol is doubtless the finest specimen of stone architecture in Upper Ásám.

Although the Hindú religion was introduced in 1615, and a number of Bráhmans was procured to teach the observances of their faith, and though in 1654 Chutumla publicly adopted the Hindú faith and encouraged Bráhmans to his court, as well as assumed the Hindú name of Jayadhajia Singh; yet Gadhádhar Singh is said to have been a Buddhist, to have eaten beef and frogs, and drunk spirituous liquors. His son Rudra Sing, however, was of the Hindú faith from the commencement of his reign.

In Robinson's "History of Asam," p. 168, we find—"Gadhádhar Singh, *alias* Chututpha, died in 1695, and was succeeded by his son Rudra Sing, *alias* Chuckungpha. In 1699, this prince is said to have founded the fort and city of Rangpúr, where he also caused an extensive tank to be made that still bears his name. In the same year he erected a theatre for the exhibition of sports, denominated Tulatuli. He died suddenly the following year at Gauhaṭṭi. Rudra Sing was, without doubt, the greatest of all the Asamese princes: he reduced the whole valley to order, and received the submission of all the hill tribes."

"In an old Asamese bulanji it is said that "Jaymatí Koorie was taken into custody by the Lorá Rájá, carried to the place where Jayságar now is, and was caned and whipped to death under a large pípal tree, which was in the same place where the pillar in the centre of the tank now stands."

In a native work, entitled "A History of the Kings of Asam," by Sri Radhanath Bor Borua and Kasinath Tamuli Phúkan, p. 34, we find the following—"On the 14th Phalgún, 1617, (A. D. February 24th, 1695) Rájá Rudra Singh went to the Singree Ghur at Ghargaon, and there assumed the name of Sooklungphaw, and, according to his father's command, memorialized the death of his mother Jaymati Koorie by digging the large tank called Jayságar, and erecting three temples in and about the place where she was murdered. The largest of these temples was dedicated to the

worship of Vishnu, one of the smaller to Siva or Mahadeb, and the other to Durga. The famous works of Rudra Singh's life are, the Matakat Rungpore, Joysaugor Dhol Pookrie, Rungonath Dhol Pookrie, Phakooah Dhol, Namdang Heel Sanko, Damoru duo heel Sanko, Kerkooteah Allee, Dooberownee Allee, and Matakaroo Allee."

To quote Robinson again, p. 276. "The remains of temples and public buildings, which are so often met with in various parts of the country, testify that the Asamese had once made considerable progress in sculpture. Their productions are, however, not merely void of attraction, they are unnatural and not unfrequently offensive and disgusting." The latter part of this paragraph is hardly correct with regard to Jayságar, only one of the designs being unfit for publication, and that is one of the incarnations of Vishnu in which a boar plays a prominent part. The stone body of the temple is literally covered with very fair specimens of sculpture, the designs and their details being in some instances wonderfully fine and artistic; not an available inch of surface is left undecorated, and the frieze of hunting scenes in the basement is for the most part extremely accurate and life-like.

The body of the building, about twenty-two feet high, supporting the dome, is built of sandstone and carries twelve pinnacles; the dome is of brick-tiles, covered with stucco, which is ornamented by being divided into an immense number of sunk panels, each having a rose in its centre, and is about thirty feet high; and the superstructure of brick, somewhat mutilated, built around an iron centre rod, makes the total height about sixty-five feet above the ground. The bund underneath the temple is composed of large sandstone boulders. These with the stone used in building the temple were probably brought from about Sadiyá by boat, and landed opposite Rangpúr; for there is a good ancient road leading from the Dikko River at that point to the Jayságar tank. The sculptured slabs are very neatly let into into the wall and with their surrounding frames are mostly crowded with diaper work and minute carved tracery. The building is octagonal, the four sides facing the cardinal points of the compass are each twenty feet broad, the other four sides have recessed angles. At its west end are two entrance rooms; from the centre one seven steps lead down through a fine stone doorway into the grand room of the temple, which is quite dark and has probably a subterranean chamber as water could be heard running underneath the floor. This room is twenty-three feet across and devoid of ornament excepting the niches; the stone work, as on the outside, reaches up to the foot of the dome which, being devoid of stone, shews the brickwork to the top, the height appearing immense when viewed by magnesium light, although it cannot exceed fifty feet.

All the other buildings are composed of brick tiles, have curved roofs, covered with stucco, generally stone doorways, and in two cases having

series of carvings in sandstone let into the walls on the outside of the buildings. Nearly all are more or less damaged by the frequent earthquakes they have had to withstand.

On the outside of the temple, near the foot of dome, runs a series of tablets, each containing an angel and all having different attitudes, as nearly resembling the angels in European mediæval sculpture as can be well imagined. Amongst the figures in the frieze of hunting scenes near the base of the temple are three unmistakeable Nágás, leading a captive by cords; the neck ornaments, the tightly pinched-in waist, scanty covering, sturdy limbs, and uncovered heads, all indicate their nationality; the weapon in the hand of each resembles the Burmese dhao-luey, and is not such an article as we see carried by the Nágás in this neighbourhood. The vehicle conveying the Rájá is of very curious construction, the wheels being supported by springs on the outside like modern railway carriages, and the single shaft reaches over the horses' back as far forward as its head. This drawing is unfortunately somewhat mutilated, and the details cannot be accurately made out. Camels are frequently represented: these may bear allusion to some event during Mír Jumlah's invasion of Ásám, as there are no such animals now to be found here and the country is quite unsuited to them. Amongst the native sports on grand festivals, elephant fighting probably had a place, as two are shewn carrying riders, and the mahauts are evidently urging the beasts to the combat; one of the elephants has the trunk of the other in its mouth. This is a very spirited and well executed piece of work.

This frieze of hunting and other scenes is undoubtedly the most interesting part of the carvings; coming from the N. W. angle and going round the building to the East we find:—

1. Two armed men on horseback. An old man on foot. Two men sitting under a tree.

2. Two old and two young alligators, having rounded ears like leopards.

3. A deer on its back, a tiger holding it by the throat, two deer and fawn running away.

4. Two men mounted on horses, one carrying a spear, the other a bow, two dogs chasing two deer and a fawn, a man in a tree aiming a gun at the deer.

5. A man on a galloping horse, about to shoot an arrow at a man on an elephant, the latter being suddenly stopped by the mahaut.

6. Two alligators with big ears.

7. Two camels marching, one mounted, the other led by a man on foot, two men on horseback conversing, two animals (dogs ?).

8. Two elephants carrying mahaut and rider, the first rider brandishing a sword.

9. (20′ face to N.) A tree, under it a man kneeling, apparently wounded, having his back turned to a man about to shoot an arrow at him. Man on galloping horse looking back and shooting an arrow at the man under the tree. Man on horseback lancing a charging buffalo over his horse's left shoulder, he carries a quiver on his back. Man kneeling behind a tree, and man up in a tree, pointing guns at some buffalo. Elephant driven by mahaut going from some buffalo, the rider carries a gun. Man on galloping horse, throwing lance at two running deer and a fawn, two dogs also pursuing the deer. Man in tree pointing gun at some deer. Herd of six large and small elephants. Forest scenery. Two tigers chasing two deer and two fawn, monkey climbing a tree out of the way.

10. Two monkeys on a tree. Man and woman on two walking horses, evidently conversing. Two monkeys on a tree, an old man under it. A tree, on one side a hut with a man in it, a person sitting down on the other side.

11. Two men on galloping horses after a deer and fawn, the one about to shoot an arrow, the other to throw a lance, two dogs pursuing the deer at full speed (very spirited).

12. Two elephants with riders being suddenly stopped by the mahaut's judges, they see No. 13.

13. A tiger holding a deer by its throat having turned it on its back, another deer is dashing off into the jungle.

14. Similar to 7. (? a tiger).

15. Two large and two small alligators, as before.

16. Man on galloping horse shooting arrow at man on elephant, mahout suddenly stopping it.

17. Two alligators with big ears, as before.

18. (20′ face to E.) A monkey on a tree. Man and woman on horseback conversing, not seeing a tiger ahead. A man on tree pointing gun at a tiger that is watching the people approaching. Man on a tree pointing gun at the tiger's rear. Man on galloping horse shooting arrow at the same tiger. Two bears about to fight. Three Nágás leading a prisoner child bound with cords, each armed with a knife. Two monkeys on two trees, two animals (leopards ?) about to climb up to them. A monkey on small tree eating a fruit. A bear (?) walking beside two people on horseback. Man walking behind a covered carriage, drawn by two horses, one saddled, a driver kneeling in front. Two people on horses. Two men and four women crowded together behind a covered carriage drawn by two horses, containing a driver, a Rájá, and an attendant who kneels behind. Broken place. Five women dancing, and seven people playing musical instruments, approaching the carriage.

19. Two large and two small alligators with mouths open.

20. Man on horseback, as 16.

21. Two riders, one about to throw lance, the other to shoot an arrow at two deer and a fawn running away. A man on a tree pointing a gun at some deer.

22. Two elephants, as 12.

23. A tiger as 13, a deer and two fawn running away.

24. A repetition of 10.

25. Two alligators as before, with open mouths.

26. Two camels, one mounted, the other led, then two men on horseback brandishing swords, two dogs running.

27. (20′ face to S.) A tiger lying down wounded, two men on trees pointing guns at it. Two elephants fighting, biting each others' trunks, carrying mahauts and riders who are urging them on. (Very spirited.) Man kneeling, pointing a gun, and man mounted, also pointing a gun at a tiger attacking a buffalo. Two men on galloping horses, one shooting an arrow at the same tiger, his companion looking back and shooting an arrow. An elephant approaching carrying a mahaut and rider. Two men on galloping horses, one shooting an arrow, the other throwing a lance at two deer running away.

28. Similar to 10.

29. Two large alligators, as before.

30. A repetition of 5.

31. A duplicate of 7.

32. A repetition of 2.

33. Similar to 27.

34. Tiger holding a deer by its throat and turning it on its back, two deer and two fawn running away. A monkey climbing a tree, and a man on a tree aiming a gun at the tiger.

35. Repetition of 12.

What standard of measure may have been used in the construction of these buildings cannot be easily ascertained, but the English foot seems to adapt itself for taking measurements where the *háth*, or cubit, would give some trouble. There is also an indescribable peculiarity in some of the decorations that seems to indicate the hand of an European architect, or at least some one who had some acquaintance with European decorative art: the structure is not ornamented in a purely oriental manner, and although the Asamese style of arch in doorway is prevalent, yet the massive stone perforated blocks for the reception of the heavy door hinges, which are found in every room, look more as if copied from some Roman building than the production of an effeminate race such as the Asamese have been. The brickwork strongly resembles many specimens of Roman architecture now existing in England: large flat tile bricks, the double rows to form arches,

the mortar mixed with broken brick, are identically the same. The solidity of the buildings, some of which, not more than fifteen feet square, have walls five feet thick, would indicate that earthquakes were as prevalent in those days as now, and perhaps more destructive; yet in spite of their massive construction very few have escaped the effects of the shocks, for great rents are visible in nearly every pucca building of any antiquity in this district.

Between Jayságar and Síbságar are numerous dhols and tombs and a large two-storeyed brick building, called the Rangghar, which is in a fairly perfect state. The smaller buildings are buried in long grass. When an opportunity occurs, a careful investigation shall be made of the most interesting of them.

Note on the Chittagong Copper-plate, dated Śaka 1165, *or A. D.* 1243, *presented to the Society by* A. L. Clay, Esq., C. S.—*By* Pranna'th Pandit, M. A.

(With a plate.)

The plate, transcript and translation of which have been given below, measures about 7½ inches in length and 7 inches in breadth, with an extreme thickness of one-eighth of an inch. It has a curvature at the top, which would seem to have been designed to serve the purpose of a handle. The extreme length from the tip of the curvature is over 9 inches. In this space are delineated, on the first face the figure of a crescent surmounted by a sun, symbolical of the gift's enduring* as long as the sun and the moon shall exist in the heavens; and on the second face, the figure of Vishnu riding on Garuḍa, which would denote that the dynasty was Vaishnava in religion, a fact borne out by the three names mentioned in the plate, which are all synonyms of Vishnu, and also by the fact of the first sloka being addressed to that divinity. The plate is engraved on both sides with characters which bear a close resemblance to those on the Tipara copper-plate, translated by Colebrooke in Vol. IX. of the Asiatic Researches, and Vol. II. of his Miscellaneous Essays; and to use the language there used "the character agrees nearly with that now in use in Bengal; but some of the letters bear a close resemblance to the writing of *Tirhut*."† The engraver has been hard-pressed for space on the second face, and was obliged towards the conclusion

* Compare चाचन्द्रार्कम् चाखाम् in sloka 6 of the Tipara copper-plate, Colebrooke, Vol. II. p. 243, चाचन्द्रार्कावचितिस्थितिसमकालीनः in the Gurjjara grant in J. R. A. S., New series, Vol. I, p. 275. चन्द्रार्कावचितिसमकालं in the Ujjayini plate, Colebrooke, II, p. 308.

† Miscellaneous Essays by H. T. Colebrooke. London, 1837, Vol. II., p. 242.

to diminish the intervals between the lines as well as the size and depth of the letters. The left side of the second face is to a considerable extent worn away, and could not without difficulty be decyphered. I have put an asterisk over letters which are conjectural and enclosed in brackets those which have been apparently omitted by mistake, though they are absolutely necessary to make the sentences intelligible.

Bábu Oomachurn Roy, Treasurer, gives the following account of the finding of the plate in a letter to A. L. Clay, Esq., Officiating Collector of Chittagong, the Society being indebted to the latter gentleman for his forwarding the plate with the whole correspondence.

"The copper plate was found at the time of re-digging a pond in Naçírábád, a village on the south-east corner of the Sadr station of Chittagong. This pond formerly belonged to the Bhats of that village, and it now belongs to a Muhammadan. The plate was also found by a Muhammadan."

The language is Sanskrit Poetry, with the exception of the first sentence and the description of the boundaries of the lands, which are the subject of the gift. The latter are given in prose, which will bear no strict grammatical analysis. It would seem that the description of the dynasty, the donor, and the donee, and the usual formula at the end, were drawn up by the court Paṇḍits, who left the details of the boundaries to be filled in by subordinate officials. For the sake of convenience, I have numbered the couplets which constitute the greater part of the engraving on the plate. The first sloka is in adoration of Damodara, a synonym of Krishna,* who had been identified with Vishnu long before. The particular synonym is chosen for the sake of a *double entendre*, the reigning king, the donor, being of that name. The second sloka is in praise of the Moon, and from this we may fairly infer that the dynasty claimed to be *Chandra-vanśi*, or descended from that luminary. This conjecture is strengthened by the terms यद्वंशप्रभवेन्दुसुन्दरयशोनिर्धौतलोकत्रयीवन्द्यः, used in the next sloka. The phrase किञ्चायच्च in the fifth sloka sounds redundant, but I am unable at present to suggest a better reading. The last half of this sloka, which dwells on the blue-black faces of rival kings, sounds very poor and tautologous in the translation, though not so bad when read in the original. The sixth sloka extols with the usual hyperbole the prime minister, under whose superintendence the *śásana* was drawn up, the king being presumed to be above such petty concerns. It may indeed be possible that the gift was in reality the minister's, though made, as a matter of form, in the king's name. The phrase यद्दोर्दण्डबलः does not denote that the minister in question was a veritable Scævola, but is used by the poet in the sense that his left hand alone was more than sufficient to overpower his enemies.

* For the appellation of Damodara, *vide* Muir's Sanskrit Texts, Part IV.

For the त्यागधारि of this sloka I might refer to उदकातिसर्गेणप्रतिपादित of the Chalukya grant in J. R. A. S., New Series, Vol. I, p. 268 ; दानाम्बुधारया in the Chitradurg plate, where Colebrooke* has the note—"solemn donations are ratified by pouring water into the hand of the donee." The same inscription employs further on the phrase सहिरण्यपयोधारापूर्वं. In sloka 7, the name of the prime minister is given as *Srimad-datta-maha-mahattaka*, of which compound *Srimad* is the usual honorific prefix ; *datta*, the patronymic ; and *Mahá-mahattaka*, the proper name. The recipient of the gift is *Sri-Prithwi-dhara-Sarmá*, a *Yajurvedi* Brahman. As the Yajur-veda is pre-eminently the sacrificial Veda, it is not surprising that a Bráhman of this school should be selected as the donee. The amount of the land given away is five Dronas, a term which is thus explained by Colebrooke in a note on the Tipara copper-plate—"A measure of land, still used in the eastern parts of Bengal, originally as much as might be sown with one *dron'a* of seed : for *dron'a* is a measure of capacity. (As. Res. Vol. V., p. 96). The dron'a, vulgarly called *dun*, varies in different districts. It may, however, be reckoned nearly equivalent to eight *bighas*, or two acres and two-thirds."† The measure is still prevalent in Eastern Bengal and Chittagong. The last word of the sloka has not been satisfactorily decyphered. The reading adopted and translated is proposed by Bábu Rájendralála Mitra's Shastri. But while on the one hand this leaves the last letter unexplained, to admit an additional one would destroy the metre. The portion in prose gives minute details about the plots of ground given away, but there is little or no hope of the sites being identified, so great has been the mutation of names owing to the Muhammadan conquest. I have in vain looked‡ at the survey map of the district. *Lavanotsavásrama-sambása-báti*, has not, as far as I am aware, been met with anywhere else. *Lavanotsava* I take to mean some festival connected with the harvest ; *sambása*, I take to mean 'residence ;' *báti*, is compounded here as in *Pushpabáti*, *Udyánabáti*, and the like. This is the most satisfactory account that I can give of the compound. *Lála* means 'red,' and is here used as a term descriptive of the quality of the ground. *Nála* (I supposed a phonetic corruption) is still used in Eastern Bengal to denote arable land in general. I may here mention that in the plate ल and ल are written exactly alike.

The succeeding slokas are of frequent occurrence, and something like them is always put at the end of grants. The ninth sloka, for instance, occurs (with the variation of भूत्वा for दत्त्वा) in the Chalukya grant, at p. 270, Journal, Royal Asiatic Society, New Series, Vol. I ; in the Gurjjara

* Colebrooke's Miscellaneous Essays, Vol. II, p. 259.

† Colebrooke, II, p. 245.

‡ Mr. Clay instituted enquiries on the spot, but with the same result.

grants, at p. 276, of the same volume; in the Ujjayini grants, at pp. 302, 311, Colebrooke's Miscellaneous Essays, Vol. II; in the Nagamangala copperplate, at p. 159 of the Indian Antiquary, Vol. II; in the Benares inscription, at p. 451 of the Asiatic Researches, Vol. XV; and in the Chattísgarh grant, p. 511 of the same volume. In the last instance, the reading is exactly the same as in the present plate. The translation which I have given, differs slightly from those previously given, but I hope mine is the nearest approach to the original.

The tenth sloka occurs in the Benares plate, p. 451 of the Asiatic Researches, Vol. XV, and we are told in a note that the same is quoted anonymously in the *Mitácharà*.

I do not remember whether the eleventh sloka occurs in any other grant, but the same ideas variously expressed are to be found in many. The first part of this sloka as engraved reads चलदलदलोलं, and I was at first inclined to supply an *ikára* and read it चलदलिदलोलं, *i. e.*, "unstable as a swarm of bees in motion"; but considering the frequency of the comparison of human life to a drop of water on a lotus leaf, I thought it better to take the second द to be a mistake of the engraver for ज. I think, we are to ascribe to want of space the fact of the details of the date and the engraver's name being omitted.

Bábu Oomachurn Roy* conjectures on the supposed ground of the title of Deva ascribed to the kings in this plate that the grant might have been made by a king of Tipara. This conjecture is in itself as slender as that based on the similarity of the character employed to that in the Tipara inscription translated by Colebrooke. Moreover only one of the kings, Madhusudana, has that title in the inscription. Mr. J. Long's analysis of the Rájámálá, or Bengali History of the Tipara Royal family throws no light on the present subject, and we must postpone observations on this point till we succeed in securing a copy of the original MS.

I cannot conclude this note without acknowledging the great help I received from Pandit Iswara Chandra Vidyaságara in decyphering the contents of the plate.

* He says in a letter to Mr. Clay—"I hope I have been able to gather the substance of the inscription. It is to this effect that in ancient times there was in Chittagong a Hindoo king about the year 1166 *Sakabda*, named Purushatham Deb. His son was Madhooshoodan Deb, his son Basudeb Deb, and his son Damudar Deb. This last named Damudar seems to have made a gift of 5 drons of land within certain boundaries to a brahman, this copperplate containing the deed of gift.

"We are told that Chittagong was under the sway of the Tipperah kings and they bore the title of Deb and even now they bear that very title.

"From this it may be fairly concluded that this deed of gift was executed by a king of the Tipperah royal family."

Transcript of the Chittagong copperplate.

शुभमस्तु शकाब्दाः १ १ ६ ५ ॥

देवि प्रातरवेहि नन्दनवनाभ्यन्तः कदम्बानिलो
वाति व्यक्तकरः श्रमीति सुतकेनालाप्य कौतूहली ।
तत्कालस्खलदङ्गभङ्गिमचलालालिङ्ग्य लक्ष्मीं बला-
दालोलाननविम्बचुम्बनपरः प्रीणातु दामोदरः ॥ १ ॥
अम्भोजश्रीहरपिप्पलः प्रेमभूः कैरवानां
चूडारत्नं त्रिपुरजयिनः केलिकारो निशायाः ।
लीलागारं कुसुमधनुषो बन्धुरश्रोनिधीनां
श्रीमानेको जयति जगदानन्दकारी मुरारिः ॥ २ ॥
यद्वंशप्रभवेन्दुसुन्दरयशोनिर्धौतलोकत्रयी-
बन्धोः श्रीपुरुषोत्तमस्य तनयः प्रौढप्रतापोत्तरः ।
देवः श्रीमधुसूदनाख्यनृपतिर्येनापि सेवानमत-
भूमीपालललाटघृष्टचरणः श्रीवासुदेवोऽजनि ॥ ३ ॥
तस्मात्तेजः प्रखरतराजग्निरोमन्थिनी-
किर्म्मीरिताङ्घ्रिनखचन्द्रमयूखमालाः ।
प्रज्ञाप्रसाधितमहीदयितप्रभुः श्री-
दामोदरः सकलभूपतिचक्रवर्त्ती ॥ ४ ॥
यस्यैव(ट्) यज्ञमोज्ज्वलेन भुवनं निष्काङ्किनं कुर्व्वता
मत्तस्त्रीजनलोचनाम्बुनकणासारं न तत् क्षेपितं ।
किन्त्वायत्त विपक्षराजकमुखे तात्कालिकः कालिमा
नीलीरागभरस्थिराय कलुषप्रागल्भ्यमभ्यस्यति ॥ ५ ॥
एतस्मात्तेजसुदव्यसनविजयिनः सव्यदोर्दण्डचण्डो
लक्ष्मीविश्रामभूमिः प्रतिनृपतिभिरः श्रेष्ठराराधिनाङ्घ्रिः ।
अश्रान्तत्यागवारिस्नपितवसुमतीकल्पवृक्षः स एकः
सर्व्वामात्यैकमुख्यो जयति मुखवरः श्रासनस्थोपनेता ॥ ६ ॥
सर्व्वामात्यशिरःशिरीषकुसुमप्रत्यर्थिताङ्घ्रिद्वय-
श्रीमद्दत्तमहामहत्तकमुखादेशेन तावीक्षतां ।
पञ्चद्रोणभुवं द्विजाय स ददौ राजा यजुर्व्वेदिने
श्रीपृथ्वीधरशर्म्मणे सुतनिने डाम्बारडामेऽर्थिने ॥ ७ ॥
यथा प्रतिदम्परसीमया भुवो द्रोणत्रयं कामनपौष्खियाके ।
तथैव भूद्रोणयुगं प्रसिद्धं केतकपालाभि(ध)पल्लिकायां ॥ ८ ॥

यत्र डाम्बार (डा)मं कामनपोड्डिया ग्रामे पूर्व्वे राजपथसीमा दक्षिणे खण्डोत्सवा
* * *
मसम्मासाबाटीसीमा पश्चिमे नद्यापाल्लभूसीमा उत्तरे खतचड़ासीमा एवं चतुःसीमावच्छिन्न-
सवाल्लालभूद्रोण २ तथा केतङ्गपाल्लाग्रामे पूर्व्वे खम्बग्रामनभूसीमा दक्षिणे नद्यापाल्लभूसीम
पश्चिमे गोपथसीमा उत्तरे खतचड़ासीमं एवं चतुःसीमावच्छिन्नसवाल्ला भूद्रो १ तथा ग्रामे
गावपोखिरा दक्षिणपश्चिम उत्तरे सवाल्ला भूद्रो१ द्वा भू२(द्र)वं ग्रामद्वये सवाल्ला भूद्रोण॥
भवन्ति चात्र धर्म्मानुसंग्रिनः श्लोकाः ॥

बहुभिर्वसुधा दत्ता राजभिः सगरादिभिः।
यस्य यस्य यदा भूमिस्तस्य तदा फलं ॥ ९ ॥
भूमिं यः प्रतिगृह्णाति यश्च भूमिं प्रयच्छति।
उभौ तौ पुण्यकर्म्माणौ नियतं स्वर्गगामिनौ ॥ १० ॥
चलदलजलतोलं जीवनं यौवनञ्च
धनमिदमनुचिन्त्यात्मानमेतत् क्षतघ्नाः।
कुरुत कुरुत चित्तं श्रेयसे पुण्यभाजं
भवति हि प(र)कीर्त्तिः पालिता सा निजेव ॥ ११ ॥

Translation.

May the year of Saka 1165 be prosperous. "Goddess! know it to be morning, the gentle breeze blows from *Kadamba* trees, and the moon (is) pale-beamed." Glad with this simulated speech and repeatedly kissing the agitated disc of the face of *Lakshmi*, [who is steady in him], after forcibly embracing her then abandoned limbs, may *Damodara* delight you!

Cruel in robbing the lotus of her beauteous prosperity; the object of the *Kairavas'* love; the jewel in the diadem of the conqueror of *Tripura*; the husband of the night; the festive abode of Kandarpa; and the friend of the oceans; victory to the beautiful *Mrigánka*, the sole gladdener of the universe.

The son of *Sri Purushottama*, the friend of the three worlds whitened by the fame, beauteous as the moon, of his race, was the king named *Sri Madhusudana Deva*, by whom too was procreated *Vásudeva*, with his feet worn by the foreheads of kings bending in homage.

His son, with the garlands of the rays of his moon-like nails variegated by the reflections from the gems on the diadems of bending kings, was *Dámodara*, lover and lord of the wisely ruled earth and *Chacravartti* over all kings.

Whose bright fame making this earth devoid of blackness, never put a stop to the rain of the collyrium particles in the eyes of the wives of his enemies. And what, too, the blackness, full dark blue, which was then on the face of hostile kings practises for aye, eminence in turbidity.

Victory to the framer of this *Sásana*, the sole head of all ministers of this (king who was) from birth victorious over battle's calamity; who (minister) was possessed of excellent qualities; mighty with his left arm; the site of Lakshmi's repose; with his feet adored by the crests of hostile kings, a Kalpataru bathing the earth with ceaseless donative libations.

That king *(Dámodara)* gave five *dronas* of land to the virtuous *Yajurvedi* Bráhmana *Sri Prithidhara Sarmá*, who asked for them in *Dambára-dáma*, detailed in this

edict by orders from the mouth of *Srimaddatta-maha-mahattara*, whose feet are worshipped with the *Sirísha* flowers on the heads of all ministers.

Three *dronas* of land in Kamanpanudiyaka and a couple of *dronas* in the village named Ketangapala, according to extreme boundaries detailed herein.

Where *Dámbára-dáma* in the village *Kámanopaundiyá* bounded east by the royal road, on the south by *Lavanotsavásrásramasambásábáti*, on the west by *Labrápálya* land, on the north by *Mritaccharha*, thus bounded on four sides, *Lala* land with *Vástu*, three dronas. So in the village *Ketangapálá*, on the east *Lambasásana* land, on the south *Labrápályo* land, on the west a cattle-track, on the north *Mritaccharhá*, thus bounded on four sides one *drona* of *savála* land. So, bounded south, west and north village *Bághpo'khira*, one drona of *saválá* land. Two plots, 2. Thus in the two villages, five dronas of *savala* land. About this there are slokas declaring a religious duty.

By many kings, Sagara and others, land has been given. As long as the land lasts, each receives the fruit. He who accepts land, as well as he who gives it away, both these, performers of virtuous deeds, certainly go to heaven.

Life, youth, and riches are unstable as the water (drop) on the (lotus) leaf moved (by the wind). Therefore reflecting on this, and knowing what has been done, make, oh make, your hearts participate in virtuous deeds for the attainment of final happiness. The fame of others, when cherished, becomes like (our) own.

The Etymology of Local Names in Northern India, as exemplified in the District of Mathurá.—*By* F. S. Growse, M. A., B. C. S.

The following article is an attempt to investigate the principles upon which the local nomenclature of Upper India has been and still is being unconsciously constructed. The inquiry is one of considerable importance to the student of language; but it has never yet been approached in a scientific spirit, and the views which are here advanced respecting this *terra incognita* in the philologist's map must be regarded as a first exploration, which is unavoidably tentative and imperfect. Many points of detail will possibly demand future rectification; but the general outline of the subject, the fixed limits within which it is contained and some of its more characteristic features of interior development have, it is hoped, been satisfactorily ascertained and delineated with a fair amount of precision.

It is not to be inferred from this prelude that a subject of such obvious interest has hitherto been totally neglected. On the contrary, it has given rise to a vast number of speculations, but all of the most haphazard description. And this from two causes; the first being a perverse misconception as to the vernacular language of the country; and the second, the absence of any list of names sufficiently complete to supply a basis for a really thorough induction. The former error it is the special object of this paper to dispel; the difficulty involved in want of materials having already been, partially at least, removed by the village catalogues, published in Part II

of 'Mathurá, a District Memoir,' from which all the illustrations of my present argument will be drawn.

It seems a very obvious truism and one that requires no elaborate defence to maintain that the names of a country and of the places in it should *primâ facie* and in default of any direct evidence to the contrary be referred to the language of the people who inhabit them rather than to any foreign source. This, however, is the very point which most writers on the subject have failed to see. In order to explain why the founder of an Indian village gave his infant settlement the name by which it is still known among his descendants, our laborious philologists have ransacked vocabularies of all the obscurest dialects of Europe, but have left their Sanskrit and Hindí dictionaries absolutely unopened.

A more curious illustration of a deliberate resolve to ignore obvious facts for the sake of introducing a startling theory based on some obscure and utterly problematical analogy could scarcely be found than is afforded by Dr. Hunter in his dissertation on non-Aryan languages. In this he refers the familiar local termination *gánw* (which *argumenti gratiâ* he spells *gáng* or *gaong*, though never so written in any Indian vernacular) to the Chinese *hiang*, the Tibetan *thiong*, the Lepcha *kyong*, &c., &c., and refuses to acknowledge any connexion between it and the Sanskrit *gráma*. Yet as certainly as Anglo-Saxon was once the language of England, so was Sanskrit of Upper India; and it seems as reasonable to deny the relationship between *gráma* and *gánw* as between the English affix *bury* or *borough* and the Saxon *burgh*. The formation is strictly in accord with the rules laid down by the Prákrit grammarians, centuries before the word *gáṇw* had actually come in existence. Thus by Vararuchi's Sutra—*Sarvatra la-va-rám* III, 3—the letter *r* when compounded with another consonant, whether it stands first or last, is always to be elided; as we see in the Hindí *bát* for the Sanskrit *vártá*, in *kos* for *krosa*, a measure of distance, and in *pem* for *preman*, love. So *gráma* passes into *gáma*, and whether this latter form or *gánw* is used depends simply upon the will of the speaker; one man calls the place where he lives Naugáma, another calls it Naugáṇw, in the same way as it is optional to say Edinbro' or Edinborough. For in Hindí as in Sanskrit a nasal can always be inserted at pleasure, according to the memorial line—*Savindukávindukayoh syád abhede na kalpanam:* and the distinction between *m* and *v* or *w* has always been very slightly marked: for example, *dhímar* is the recognized literary Hindí form of the Sanskrit *dhívar*, and at the present day villagers generally write *Bhamáni* for *Bhawáni*, though the latter form only is admitted in printed books. If speculation is allowed to run riot with regard to the paternity of such a word as *gáṇw*, every step in the descent of which is capable of the clearest proof, then philology is still a science of the future,

and the whole history of language must be rewritten from the very commencement.

Perhaps of all countries in the world, northern India is the one which for an investigation of this kind is the most self-contained, and the least in need of alien analogies. Its literary records date from a very remote period; are in fact far more ancient than any architectural remains or even than any well authenticated site, or definitely established era, and they form a continuous and unbroken chain down to this very day. From the Sanskrit of the Vedas to the more polished language of the Epic poems, and through the Prákrit of the dramatists, the old Hindí of Chand and the Braj Bhásha of Tulsi Dás, down to the current speech of the rural population of Mathurá at the present time, the transitions are never violent, and at most points are all but imperceptible. The language, as we clearly see from the specimens which we have of it in all its successive phases, is uniform and governed throughout by the same phonetic laws. And thus, neither from the intrinsic evidence of indigenous literature, nor from the facts recorded by history, is it permissible to infer the simultaneous existence in the country of an alien-speaking race at any period to which it is reasonable to refer the foundation of places that still bear a distinctive name, prior to the Muhammadan invasion. The existence of such a race is simply assumed by those who find it convenient to represent as non-Aryan any formation which their acquaintance with unwritten Aryan speech in its growth and decay is too superficial to enable them at once to identify.

As local etymology is a subject which can only be investigated on the spot and therefore lies beyond the range of European scholars, its study is necessarily affected by the prejudices peculiar to Anglo-Indian officials, who are so accustomed to communicate with their subordinates only through the medium of Urdú that most of them regard that *lingua franca* as being really what it is called in official parlance, the vernacular of the country. This familiarity with the speech of the small Muhammadan section of the community, rather than with that of the Hindu masses, causes attention to be mainly directed to the study of Persian and Arabic, which are considered proper to the country, while Sanskrit is thought to be utterly dead, of no interest save to professional scholars and of no more practical import in determining the value of current phrases than Greek or Hebrew.

The prejudice is to be regretted, as it frequently leads writers, even in the best informed London periodicals, to speak of India as if it were a purely Muhammadan country, and to urge upon the Government, as highly conciliatory, measures which if taken would most effectually alienate the sympathies of the vast majority.

Neither Urdú, Persian, nor Arabic, is of much service in tracing the derivation of local names, and it is hastily concluded that words which

are unintelligible when referred to those recognized sources must therefore be non-Indian, and may with as much probability be traced up to one foreign language as another. Any distortion of a village name which makes it bear some resemblance to a Persian or Arabic root, is ordinarily accepted as a plausible explanation; while its deduction from the Sanskrit by the application of well-established but less popularly known phonetic and grammatical laws is stigmatized as pedantic and honestly considered to be more far-fetched than a derivation from the Basque or the Lithauanian.

This may seem an exaggerated statement; but I speak from personal experience and with special reference to some criticisms communicated to me by a distinguished Civilian of the Panjáb, who thought the identification of Maholi with Madhupuri far more improbable than its connection with the Basque and Toda word *uri*, which is said to mean 'a village.'

Such philological vagaries have their birth in the unfortunate preference for Urdú, which the English Government has inherited from the former conquerors of the country, though without any of their good reasons for the preference. They are further fostered by a wide-spread idea as to the character of the people and the country, which in itself is perfectly correct and wrong only in the particular application. The Hindus are an eminently conservative race, and their civilization dates from an extremely remote period. It is, therefore, inferred that most of their existing towns and villages are of very ancient foundation, and if so may bear names to which no parallel can be expected in the modern vernacular. This hypothesis is disproved by what has been said above as to the continuity of Indian speech: it is further at variance with all local traditions. The present centres of population, as any one can ascertain for himself, if he will only visit the spots instead of speculating about them in his study, are almost all subsequent in origin to the Muhammadan invasion. When they were founded, the language of the new settlers, whatever it may have been in pre-historic times, was certainly not Turanian, but Aryan as it is now; and though any place, which had previously been inhabited, must already have borne some name, the cases in which that old name was retained, would be very rare. Thus, it may be remarked in passing, the present discussion supplies no ethnical argument with regard to the original population of the country. The names, once regarded as barbarous, but now recognized as Aryan, must be abandoned as evidence of the existence of a non-Aryan race; but at the same time, since they are essentially modern, they cannot be taken as supporting the counter-theory. The names of the rivers, however, which also are mostly Aryan, may fairly be quoted as bearing on the point; for of all local names these are the least liable to change, as we see in America and our Colonies, where it is as exceptional to find a river with an English name as it is to find a town with an Indian one.

Moreover, Hindu conservatism, though it doubtless exists, is developed in a very different way from the principle known by the same name in Europe. Least of all is it shewn in any regard for ancient buildings, whether temples or homesteads. Though Christianity is a modern faith as compared with Hinduism, and though the history of English civilization begins only from a time when the brightest period of Indian history had already closed, the material evidences of either fact are found in inverse order in the two countries. There is not a single English county which does not contain a longer and more venerable series of secular and ecclesiastical edifices than can be supplied by an Indian district, or it might even be said by an entire Presidency. Thus the temple of Gobind Deva at Brindában, which is popularly known in the neighbourhood as 'the old temple' *par excellence*, dates only from the reign of Akbar, the contemporary of Elizabeth, and is therefore far more modern than any single village church in the whole of England, barring those that have been built since the revival by the present generation. The same also with MSS. The Hindus had a voluminous literature while the English were still unable to write; but at the present day in India a MS. 200 years old is more of a rarity than one five times that age in England. This complete disappearance from the surface of all material records of antiquity is no doubt attributable in great measure to the operation of the two most destructive forces in the known world, *viz.* white ants and invaders, but the Hindus themselves are not altogether free from blame in the matter. As if from a reminiscence of their nomadic origin, with all their modern superstitious dislike, to a move far from home is combined an inveterate tendency to slip away gradually from the old landmarks. The movement is not necessitated by growth of population, which as in London for instance can no longer be contained within the original city bounds, but is a result of the Oriental idiosyncrasy that makes every man desire not, in accordance with European ideas, to found a family or restore an old ancestral residence, but rather to leave some building exclusively commemorative of himself, and to touch nothing that his predecessors have commenced lest they should have all the credit of it with posterity. The history of England, which runs all in one cycle from the time of its first civilization, affords no ground for comparison; but in mediæval Italy the course of events was somewhat parallel, and, as in India, a second empire was built up on the ruins of a former one of equal or greater grandeur and extent. In it we find the modern cities retaining under some slight dialectical disguises the very same names as of old and occupying the same ground: in India on the other hand, there is scarcely an historic site, which is not now a desolation. Again, to pass from political to merely local disturbances: when London was rebuilt after the Great Fire, its streets in spite of all Wren's remonstrances were laid out exactly as be-

fore, narrow and irregular as they had grown up piece by piece in the course of centuries, and with even the churches on their old sites, though the latter had become useless in consequence of the change in the national religion, which required one or two large arenas for the display of pulpit eloquence rather than many secluded oratories for private devotion. When a similar calamity befell an Indian city, as it often did, the position of the old shrines was generally marked by rude commemorative stones, but the people made no difficulty about abandoning the exact sites of their old homes, if equally eligible spots offered themselves in the neighbourhood.

The same diversity of conservative ideas runs through the whole character: the Hindu quotes the practice of his father and grandfather and persuades himself that he is as they were, and that they were as their forefathers, unconscious of any change and ignoring the evidence of it that is afforded by ancient monuments, both literary and architectural. The former he prizes only for their connexion with the sect to which he himself belongs; whatever is illustrative of an alien faith he consigns to destruction without any regard for its history or artistic significance; and in an ancient building, if it has fallen into disuse, he sees no beauty and can take no interest; though this can scarcely be from the feeling that he can easily replace it with a better, a conviction which led our mediæval architects to destroy without compunction any part of an earlier Cathedral, however beautiful in itself, which had become decayed or too small for later requirements. In all these matters, England is far more critically conservative; believing in nothing, we tolerate every thing; and profoundly distrusting our own creative faculties, preserve as models whatever we can rescue from the past, either in art or literature.

These reflections may seem to wander rather far from the mark; but they explain the curious equipoise that prevails in the Indian mind between a profound contempt for antiquity and an equally profound veneration for it. The very slight regard in which ancient sites are held is illustrated by the use of the terms 'Little' and 'Great' as local prefixes. In consequence of the tendency to shift the centre of population, these seldom afford information as to the comparative area and importance of the two villages so distinguished: most frequently the one styled 'Little' will be the larger of the two. In some cases the prefix 'Great' implies only that when the common property was divided among the sons of the founder, the share so designated fell to the lot of the eldest; but ordinarily it denotes the original village site, which has been wholly or at least partially abandoned, or so diminished by successive partitions that it has eventually become the smallest and least important of the group.

The foregoing considerations will, I trust, be accepted as sufficiently demonstrating the reasonableness of my general position that local names

in Upper India are, as a rule, of no very remote antiquity and are *primâ facie* referable to Sanskrit and Hindí rather than to any other language. Their formation has certainly been regulated by the same principles that we see underlying the local nomenclature of other civilized countries, and we may therefore expect to find them falling into three main groups, as follows:—

I. Names compounded with an affix denoting place.

II. Names compounded with an affix denoting possession.

III. A more indefinite class, including all names without any affix at all; such words being for the most part either the name of the founder, or an epithet descriptive of some striking local feature.

Running the eye over the list of villages in the Mathurá district, we can at a glance detect abundant illustrations of each of these three classes. Thus under Class I come such names as Nának-pur, Pati-pura, Bich-puri, where the founder's name is combined with the local affix *pur*, *pura*, or *puri*, signifying 'a town.' So also, Nau-gáma, Uṇcha-gánw, Badan-gaṛh, Chamar-gaṛhi, Rúp-nagar, Pál-kherá, Brinda-ban, Ahalya-ganj, Rádhá-kund, Mangal-khoh, Mall-sarái, and Nainu-patti. In all these instances both the local affix is easy to be recognized as also the word to which it is attached.

Of Class II the illustrations are not quite so obvious and will mostly require special elucidation; but some are self-evident, as for example Bhúre-ká, where the affix is the ordinary sign of the genitive case; Ráne-rá, where it is the Márwári form of the same; and Pípal-wára, where it represents the familiar *wálá*.

Under Class III come first such names as Súraj, Misri, and Gaju, which are known to have been borne by the founders; and under the second subdivision, Gobardhan, 'productive in cattle'; Sanket, 'a place of assignation'; Khor, 'an opening between the hills'; Basai, 'a colony'; and Pura, 'a town,' indicative of a period when towns were scarce, with many others of similar character.

Looking first for names that may be included under Class I., we find that by far the most numerous variety are those compounded with the affix *pur*. This might be expected, for precisely the same reason that 'ton' is the most common local ending in England. But we certainly should not expect to find so large a proportion unmistakably modern, with the former part of the compound commemorating either a Muhammadan or a Hindu with a Persian name, or one who can be proved in some other way to have lived only a few generations ago, and with scarcely a single instance of a name that can with any probability be referred to a really ancient date. As this fact is one of considerable importance to my argument, I must proceed to establish it beyond all possibility of cavil by passing in review the entire series of names in which the ending occurs in each of the six parganas of the district.

The Kosi pargana comprises 61 villages, of which 9 end in *pur*; *viz.* 'Aziz-pur, Hasan-pur, Jalál-pur, Lál-pur, Nabí-pur, Pákhar-pur, Rám-pur, Sháh-pur, and Sháhzád-pur. Six of these are unmistakably post-Muhammadan, one is apparently so, and two are of quite uncertain date.

In the Chhátá pargana there are 111 villages, and 16 of them have the *pur* ending; *viz.* Ádam-pur, Akbar-pur, Bázíd-pur, Deva-pura, so called from a 'temple' of Gopál, built by Muhkam Sinh, the ancestor of the present proprietors, whose Arabic name proves that he lived not many generations ago; Ghází-pur, Gulál-pur, Jait-pur, Jamál-pur, Khán-pur, Lár-pur; Mán-pur, on the Barsána range, so called from the Mán Mandir, the first erection of which cannot date from further back than the transfer of Rádhá's chief shrine from Rával to Barsána, which took place in the 15th or 16th century A. D.; Pír-pur, Sayyid-pur, Tatár-pur, Hájí-pur, and Kamál-pur. Of these 16 names, 12 are unquestionably modern, and of the remaining 4, nothing can be said with certainty either one way or the other.

Of the 163 villages in the Mathurá pargana, as many as 32 have the *pur* ending; *viz.*, Alha-pur, said by local tradition to have been founded and so named only 200 years ago (the founder's descendants are still on the spot and most unlikely to detract from the antiquity of their family) A'zam-pur and Báḳir-pur, both founded by A'zam Khán Mír Muhammad Báḳir, who was Governor of Mathurá from 1642 to 1645; Bhavan-pura; Bija-pur, founded 200 years ago by Bijay Sinh Thákur, on land taken from the adjoining village of Nahrauli; Daulat-pur; Daum-pura, one of 11 villages founded by the sons of a Jáṭ named Naindu at no very remote period, since the share which fell to the eldest of the sons is distinguished by the Persian epithet *kalán*; Giridhar-pur, probably the most ancient of the series, but still dating from times of modern history, having been founded by Giridhar, a Kachhwáha Thákur of Satoha, whose ancestors had migrated there from Amber; Gobind-pur; Gopál-pur; Hakím-pur; Jamál-pur; Jaṭi-pura, founded by Gosain Bitthal-náth, the son of Vallabháchárya of Gokul, commonly called Jaṭi Jí, about the year 1550 A. D.; Jay Sinh-pura, founded by Sawáe Jay Sinh of Amber about the year 1720 A. D.; Kesopur, so called from the famous temple of Kesava Deva, a fact which would sufficiently account for the name remaining unchanged, even though of ancient date; Lálpur, founded by a Thákur named Lalu, a member of the Gaurua clan, which is confessedly of late origin; Lár-pur, founded only a few generations ago by a Tarkar Thákur, Láram; Madan-pura, founded by an ahír from the old village of Karnaul; Mádho-pur, dating from 300 years ago, when it was formed out of lands taken from the adjoining villages and given to a Hindu retainer by Salím Sháh; Mírzá-pur; Muhammad-pur; Mukund-pur, so called after a Mahratta founder; Murshid-pur founded by Murshid Ḳulí Khán, who was Governor of Mathurá in 1636 A. D.; Nabí-pur founded by

'Abd-un-Nabí, Governor from 1660 to 1668; Panna-pur founded in 1725 A. D.; Ráj-pur, near Brindá-ban, so named with reference to the Ráj-Ghát, by a Sanádh Bráhman from Kámar in the 16th century; Rám-pur, named after the Rám-tál, a place of pilgrimage there; Rasúl-pur; Salím-pur, dating from the reign of Salím Sháh; 'Askar-pur, a modern alternative name for Satoha; Sháh-pur, and Dhak-pura. Of these 32 names, there are only five as to which any doubt can be entertained; all the remainder are clearly modern.

In the Máṭ pargana are 141 villages, and 41 end in *pur;* viz., Abhay-pura, settled by a Jáṭ, Abhay Sính, from Kaulána; Ahmad-pur; Akbar-pur, Amán-ullah-pur; Badan-pur; Baikunth-pur, founded according to local tradition 300 years ago; Baland-pur, founded in the 17th century by a Jáṭ named Balavant; Bali-pur, founded by Bali, a Jáṭ from Bájana about 1750 A. D.; Begam-pur; Buláḳ-pur; Chand-pur, of modern Jáṭ foundation; Daulat-pur; Farídun-pur; Fíroz-pur; Hamza-pur; Hasan-pur; 'Ináyat-pur; Ja'far-pur; Jahángír-pur; Jaṭ-pura, a modern off-shoot from the adjoining village of Shal; Khán-pur; Khwája-pur; Lál-pur, founded by a Jáṭ from Parsauli; Makhdúm-pur; Mír-pur; Mubárak-pur; Mu'ín-ud-dínpur; Nabí-pur; Nának-pur, a modern off-shoot from Musmina; Nausher-pur; Núr-pur; Pabbi-pur; Pati-pura, a modern colony from the Jáṭ village of Dunetiya; Ráe-pur, recently settled from Musmina; Sadíḳ-pur; Sadr-pur; Sakat-pur; Sikandar-pur; Suhág-pur; Sulṭán-pur, and Udhan-pur. As to the foundation of 6 out of these 41 villages nothing is known; the remaining 35 are distinctly ascertained to be modern.

Of the 203 villages in the Mahá-ban pargana, 43 have the ending *pur; viz.*, 'Abd-un-Nabí-pur; 'Alí-pur; Amír-pur; Islám-pur; Bahádur-pur; Balarám-pur, recently founded by Sobhá Ráe Kayath; Banárasi-pur, founded by a Bráhman Banárasi, who derived his own name from the modern appellation of the sacred city called of old Váránasi; Bhankar-pur; Bichpuri, of modern Jáṭ foundation; Daulat-pur; Fath-pura; Ghiyás-pur; Gohar-pur; Habíb-pur; Hayát-pur; Hasan-pur; Ibráhím-pur; 'Í'sá-pur, founded by Mírzá 'Isá Tarkhán, Governor of Mathurá in 1629 A. D.; Jádon-pur; Jagadís-pur, founded by a Parásar, Jagadeva, whose descendants are still on the spot and claim no great antiquity; Jamál-pur; Jogi-pur; Kalyán-pur; Ḳásim-pur; Khán-pur; Kishan-pur, recently settled from the village of Kárab; Lál-pur; Manohar-pur; Mohan-pur; Mubárak-pur; Muzaffar-pur; Nabí-pur; Nasír-pur; Núr-pur; Ráe-pur; Sayyid-pur; Shiháb-pur; Sháh-pur; Shahzád-pur; Sher-pur; Ṭayyib-pur, and Zakariya-pur. Of these 43 villages, 35 are certainly quite modern; as to the remaining 8 nothing can be affirmed positively.

The 6th and last pargana, Sa'dabad, contains 129 villages, of which 31 have the ending *pur;* viz., Abhay-pura, of modern Jáṭ foundation; Bágh-

pur, founded 300 years ago by a Jáṭ named Bagh-ráj; Bahádur-pur; Bijal-pur; Chamar-pura; Dhak-pura; Fathullah-pur; Ghátam-pur, founded in the reign of Sháhjahán; Hasan-pur; Idal-pur; Mahábat-pur; Makan-pur; Mánik-pur, of modern Jáṭ foundation; Mír-pur; Náráyan-pur, named after a Gosain of modern date, Náráyan Dás; Násir-pur; Nasír-pur; Nan-pura; Ráe-pura, of modern Thákur foundation; Rám-pura, recently settled from Sahpau, by a Bráhman named Mán Mall; Rashíd-pur; Sala-pur, founded by a Bráhman named Sabala; Salím-pur; Samad-pur, settled not many generations ago by a Jáṭ named Sávadhán; Sarmast-pur; Sháhbáz-pur; Sher-pur; Sithara-pur, a modern off-shoot of Garúmra; Sulṭán-pur; Táj-pura and Zari-pura. Of these 31 names, 5 are doubtful, the other 26 are proved to be modern.

Adding up the results thus obtained we find that there are in the whole district 172 villages that exhibit the termination *pur*, and of these as many as 141 are either obviously of modern origin, or are declared to be so by local tradition. It is also worthy of notice that in the above lists there has frequently been occasion to mention the name of the parent settlement from which a more recent colony has been derived; but in no single instance does the older name shew the *pur* ending. Yet *pura* or *puri* is no new word, nor is its use as a local affix new; on the contrary we have the clearest literary proof that it has been very largely so employed from the very commencement of the Aryan occupation of India. What then has become of all the older names in which it once appeared? It is inconceivable that both name and place should in every instance have been so utterly destroyed as not to leave a trace behind; and we are thus forced to accept the alternative conclusion that the affix has in course of time so coalesced with the former part of the compound, that it ceases to be readily distinguishable from it. Now of names that are presumably ancient, it will be found that a considerable proportion terminate in *oli*, *auli*, *auri*, *aura*, or *aula*. Thus, deducting from the 61 villages in the Kosí pargana, the nine that have the modern termination *puri*, we have 52 left and among that number 7 are of this character; *viz.*, Banchauli, Chacholi, Chandausi, Mahroli, Sánchauli, Sujauli, and Thmaula. Again, of the 95 villages that remain in the Chhátá pargana after deduction of the 16 ending in *puri*, 15 have the *oli* affix: *viz.*, Ahori, Astoli, Baroli, Bharauli, Chaksauli, Dáhroli, Darauli, Gangroli, Lodhauli, Mangroli, Parsoli, Pilhora, Rankoli, Rithora, and Tároli. Without continuing the list in wearisome detail through the other four parganas of the district, it will probably be admitted that, in earlier times, *oli* was as common a local affix as *puri* in modern times, and must represent some term of equally general and equally familiar signification. To proceed with the argument: these names, though as a rule older than those ending in *puri*, are still many of them of no great antiquity and can be proved to belong to

an Aryan period, when the language of the country was in essentials the same as it is now and the people inhabiting it bore much the same names as they do still. Thus Sánchauli is derived from Sánchi Devi who has a temple there; Sujáuli from a founder Suján, whose descendants are still the proprietors, and Parsoli and Tároli from founders named respectively Parsa and Tára. It may be presumed with absolute certainty that these people, bearing such purely Indian names, whether they lived 5, 10, or 15 generations ago, knew no language but their own vernacular, and could not borrow from any foreign tongue the titles by which they chose to designate their new settlements. Thus Dr. Hunter, and those who have followed him in his speculations, may be correctly informed when they state that in Tamil, or Telugu, or Toda, or even in Basque there is a word *uri*, or *uru*, or *ur*, which means 'village'; but yet if this word was never current in the ordinary speech of Upper India, the founders of the villages quoted above cannot possibly have known of it. The attempt to borrow such a name as Sujáuli or Maholi directly from the Basque is, when viewed under the light of local knowledge, really more absurd than to derive Cannington from *Kanhay*, or Dalhousie from *Dala-hási*, 'with pleasant foliage'. The misconception, as already observed, has arisen from the erroneous idea that all village names are of remote antiquity and may therefore be illustrated by philological analogies collected from all parts and ages of the world. In truth, *uli* or *uri* is simply *puri* with the initial consonant elided. Such an elision, removing as it does the most distinctive element in the word, may appear at first sight highly improbable: it is, however, in strict accord with the rules of Hindi formation. The two first *sútras* of the second Book of Vararuchi's Prákrita-Prakása in the clearest manner direct it to be made. The text stands thus:

(1.) *Ayuktasyánádau* (2.) *Ka-ga-cha-ja-ta-da-pa-ya-vám práyo lopah.* That is to say, the consonants k, g, ch, j, t, d, p, y, and v, when single and non-initial, are generally elided. And as a convincing proof that this is no mere grammatical figment, but a practical rule of very extensive application, take the following familiar words, in which its influence is so obvious as to be undeniable. By the elision of the prescribed consonant we obtain from the Sanskrit *súkar*, the Hindi *súar*, 'a pig'; from *kokila*, *koil*, 'the cuckoo'; from *súchi*, *súi*, 'a needle'; from *tátá*, *táu*, 'a father's elder brother'; from *pada*, *páo*, 'a quarter'; from *kúpa*, *kúa*, 'a well'; from *Prayág*, *Prág*, the Hindí name of Alláhábád; and from *jíva*, *jía*, 'life.' The rule, it is true, provides primarily that the letter to be elided must be non-initial; but one of the examples given in the text is *su uriso* for *su purusha*, 'a good man'; where the *p* is still elided although it is the initial of the word *purusha*. This the commentator explains by declaring that "the initial letter of the last member of a compound must be considered as non-initial."

Thus the mystery is solved, and Karnaul is at once seen to be Karna-pur; Karauli, Kalyán-puri; Taroli, Tárá-puri; and Sujáuli, Sujáu-puri.

This practical application of the Prákrit Grammarian's rule was first stated in my 'Mathurá, a District Memoir,' published towards the close of last year. In my own mind, it was so firmly established as an indisputable fact, and possessed in its extreme simplicity at least one of the great merits of all genuine discoveries, that I stated it very briefly and thought it unnecessary to bring forward any collateral arguments in its support. But I find that I much under-rated the strength of inveterate prejudices; for with the exception of one reviewer in a London scientific journal, all other critics seemed to regard my theory as the mere outcome of unpractical pedantry. I have therefore on the present occasion taken great pains to omit nothing, and I cannot believe that any one who will submit to the trouble of following my argument as I have now stated it, will still maintain "that the direct derivation from the Turanian roots *aul*, *ur*, *uri* is more probable than the forced and far-fetched Sanskrit derivation from one single root supported only by the theory of a grammarian, which may or may not have been put in practice in an unlettered age." The writer of the remarks I quote, would seem to imagine that language was the invention of grammarians; on the contrary, they are powerless to invent or even change a single word, and can merely codify the processes which are the result of unconscious action on the part of the unlettered masses. When Sujáu-puri is converted in popular speech into Sujáuli, it is not because in one rule Vararuchi has directed the elision of the initial *p*, and in another rule the elision of the final *n*; but because a Hindu's organs of speech (as the grammarian had noticed to be the invariable case) have a natural and unconscious tendency to the change.* This tendency is still existing in full force, and my observing it to be so in another local compound first suggested to me the identification of *uri* with *puri*. Thus the beautiful lake at Gobardhan with the Mausoleum of the first of the Bharat-pur Rájás is called indifferently Kusum-sarovar, or Kusumokhar; and at Barsána is a tank, called either Bhánokhar or Brikhbhán ká pokhar, after Rádha's reputed father Brikh-bhán. Both in Kusumokhar and Bhánokhar it is evident that the latter part of the compound was originally *pokhar*, and in the same way as the initial *p* has been there elided, so also has it been in Sujáuli and Maholi. The explanation of the last mentioned word 'Maholi' is one of the most obvious and at the same time one of the most interesting results of my theory. It is the name of the village some four miles from Mathurá, which has grown up in the vicinity of the sacred grove of Madhu-ban, where Ráma's brother Satrughna de-

* Thus the A'gra shop-keepers who have converted Blunt-ganj into Belan-ganj, have probably never heard of Vararuchi, but they have certainly, though unconsciously, followed his rules.

stroyed the giant Madhu. On the site of the captured stronghold the hero is said to have built a city, called indiscriminately in Sanskrit literature Mathurá or Madhu-puri: the fact, no doubt, being that Mathurá was originally the name of the country, with Madhu-puri for its capital. In course of time the capital, like most Indian cities, gradually shifted its site, probably in order to follow the receding river; while Madhu-puri itself, fixed by the locality of the wood that formed its centre, became first a suburb and finally an entirely distinct village. Simultaneously with these changes, the name of the country at large was attached *par excellence* to its chief city, and Madhu-puri in its obscurity became a prey to phonetic decay and was corrupted into Maholi. The transition is a simple one; the *h* being substituted for *dh* by the rule II. 27 *Kha-gha-tha-dha-bhám Hah*, which gives us the Hindi *bahira* for the Sanskrit *badhira*, 'deaf' and *bahu* for *vadhu*, 'a female relation.'

It will be observed that Madhu-puri as a literary synonym for Mathurá remains unchanged, and is transformed into Maholi only as the name of an insignificant village. Thus an easy solution is found for the difficulty raised by the same critic I have before quoted, who objects "If it is possible in the lapse of time to elide the *p* of *puri*, why have not the oldest towns in India like Hastina-pur yielded to the change? and in the case of more modern towns why do we not find the change half-effected, some middle place in the transition stage?" To the former of these two questions I reply that a name when once petrified in literature is preserved from colloquial detrition. Thus, of two places originally named alike, one may retain the genuine Sanskrit form, while the other becomes Prákritized, according to their celebrity or otherwise. A parallel is afforded by the names of many English families: the elder branches retain the old spelling, however much at variance with modern pronunciation, as for instance, Berkeley and Marjoribanks; while the obscurer branches, who seldom had occasion to attach their signatures to any document, conform their spelling to the sound and appear in writing as Barkly and Marchbanks. Or not unfrequently they retain the old form, but pronounce the word not in the old-fashioned way but according to the value of the vowels in ordinary modern pronunciation. Thus Hastinapur exists unchanged, by virtue of its historical fame; had it been an obscure village it would probably have been corrupted into Hathaura. In fine, it may be accepted as a general rule that when the termination *pur*, *pura*, or *puri*, is found in full, the place is either comparatively modern, or if ancient is a place of pre-eminent note. The one exception to the rule is afforded by names in which the first element of the compound is a Persian or Arabic word. Some of them may be much older and yet not more distinguished than many of pure Hindu descent from which the *p* has disappeared; but the explanation lies in the natural

want of affinity between the two members of the compound, which would prevent them from coalescing, however long they might be bound together.

To say that the actual process of transition can never be detected is not strictly in accordance with facts. The elision is not restricted to proper names, but is applicable to all words alike; and in Hindi books written and printed at the present day it is optional with the writer to use exclusively either *kokila*, or *koil*; *súkar* or *súar*; *kúp* or *kúa*, or both indifferently. Again, to take a local illustration: Gobardhan, being a place of high repute, is always so spelt by well-informed people, but in vulgar writing it is contracted to Gordhan, and it is almost exceptional to come across a man whose name is Gobardhan Dás, who does not acquiesce in the corruption.

Next to *pur*, the local affix of most general signification and the one which we should therefore expect to find occupying the second place in popular use is *gráma*, *gáma*, or *gánw*. It occurs, however, far less frequently, at least in an unmutilated state. Thus of the 61 villages in the Kosi pargana there are only two with this affix, *viz.*, Dahi-gánw, named from the Dadhi-kund, and Pai-gánw from the Pai-ban-kund; *dadhi* and *payas* both meaning 'milk.' In the 111 Chháta villages there are four, *viz.*, Bhaugánw Nand-gánw, Naugáma, and Uncha-gánw. In the 163 Mathurá villages there are six, *viz.*, Bachh-gánw, Dhan-ganw, Jakhin-gánw, Naugáma (properly Ná-gáma from its founder Nága), Ním-gánw, and Uncha-gánw. In the 141 Máṭ villages there is only one, Tenti ká gánw, and this a name given by Rájá Súraj Mall on account of the abundance of the *karil* plant with its fruit called *tenti* to a place formerly known as Akbar-pur. In the 203 Mahában villages only two, *viz.*, Ním-gánw and Páni-gánw; and in the 129 Sa'dábád villages, four, *viz.*, Kukar-gama, Naugáma, Risgáma, and Tasigau. The proportion is therefore little more than two per cent, and even of this small number the majority may reasonably be presumed to be of modern date. Thus Nau-gáma in the Chháta pargana was formed in later Muhammadan times by a moiety of the population of the parent village Tároli, who under imperial pressure abandoned their ancestral faith and submitted to the yoke of Islám. Again the five or six villages, such as Bachh-gánw, Dahi-gánw, &c., that have sprung up round the sacred groves and lakes and retain the name of the *tírath* unaltered, simply substituting *gánw* for the original *ban* or *kund*, are almost certainly due to the followers of Vallabhácháryа at the beginning of the 16th century, or to the Gosáin who composed the modern Brahma-vaivarta Puráṇa and first made these spots places of Vaishnava pilgrimage. It may therefore be inferred that in older names the termination *gráma* has, like *puri*, been so mutilated as to become difficult of recognition. The last name on the list, *viz.*, Tasígau, is valuable as suggest-

ing the character of the corruption, which it exhibits in a transitional stage. The final syllable, which is variably pronounced as *gau*, *go*, or *gon*, is unmistakeably a distinct word, and can only represent *gánw*. The former part of the compound, which at first sight appears not a little obscure, is illustrated by a village in the Mathurá pargana, Tasíha, a *paṭṭi*, or subdivision of the township of Sonkh, which is said to bear the name of one of the five sons of the Jáṭ founder, the other four being Ajal, Ása, Púrna, and Sahjua. As these are clearly Hindi vocables, it may be presumed that Tasíha is so likewise, and we shall probably be right if we take it for the Prákrit form of the Sanskrit *tishya*, one of the lunar mansions, used in the sense of 'auspicious,' in the same way as the more common Púsa, which represents the asterism Pushya. Thus as the letter *g* can be elided under the same rule as the *p* in *puri*, the original termination *gráma* is not unfrequently reduced to the form *on*, in which not one letter of its older self remains. The most interesting example of this mutation is afforded by the village *Parson*. Its meaning has so thoroughly died out that a local legend has been in existence for some generations which explains it thus: that two days after Krishna had slain one of the monsters with which the country was infested, he was met at this spot by some of his adherents who asked him how long ago it was that he had done the deed, and he replied *parson*, 'the day before yesterday.' This is obviously as absurd as the *kal kátá*, or 'yesterday's cutting,' told about Calcutta; for apart from other reasons the word in vogue in Krishna's time would have been not *parson*, but its original form *parsvas*. However, the true etymology, which is yet more disguised by the fact that office clerks always change the *r* into *l* and call the place Palson, does not appear to have been ever suggested till now. Clearly the name was once Parasuráma-gánw, or in its contracted form Parsa-gánw, and thence by regular transition has passed through Parsánw into Parson. If proof were required, it is supplied by the fact that a large pond of ancient sacred repute immediately adjoining the village is called Parasurám-kuṇḍ.

The sacred ponds and groves with which the country of Braj abounds, are, as might naturally be expected, ordinarily much older than the villages on their margin; and, as illustrated by the above example, it is always of the utmost importance to the philologist to ascertain their popular names. These are much less liable to corruption than the name of any village; for as the *tírath* is visited solely on account of the divinity with whom it is traditionally associated, his name is in it preserved intact, while as an element in the word that designates the village (a place most connected in the mind with secular matters) its primary import is less considered and in a few generations may be totally forgotten. Thus the obscure name of a pond, which can only be ascertained by a personal visit, often reveals the

name of the local deity or it may be of the founder of the settlement, and in that gives a surer clue to the process of corruption in the village name, than could ever be afforded by any amount of library research. For example, the resolution of such a word as Senwa into its constituent elements might seem a hopeless undertaking; but the clouds are dispelled on ascertaining that a neighbouring pond of reputed sanctity is known as Syám-kund. Thence it may reasonably be inferred that the original form was Syám-gánw; the final *m* of Syám and the initial *g* of gánw being elided by the rules already quoted, and the consonant *y* passing into its cognate vowel. Other names in the district, in which the affix *gánw* may be suspected to lurk in a similarly mutilated condition, are Jaiswa for Jay-sinh-gánw; Basáun for Bishan-gánw; Bhiún for Bhím-gánw; Báḍon for Báḍu-gánw (Báḍu being for Sanskrit Báḍava); and Oháwa for Udha-gánw.

Another word of yet wider signification than either *puri* or *gráma*, and one which is known to have been extensively used as a local affix in early times is *sthána*, or its Hindi equivalent *thána*. And yet, strange to say, there is not a single village name in the whole district in which its presence it apparent. It probably exists, but if so, only in the very mutilated form of *ha*. Thus the village of Satohá on the road between Mathurá and Gobardhan is famous for, and beyond any doubt whatever derives its name from, a sacred pond called Sántanu-kund. The eponymous hero is a mythological character of such remote antiquity, that he is barely remembered at all at the present day, and what is told about him on the spot is a strang jumble of the original legend. The word Satohá therefore is no new creation, and it can scarcely be expected to have escaped from the wear and tear of ages to which it has been exposed, without undergoing even very material changes. The local wise-acres find an etymology in *sattu*, 'bran,' which they assert to have been Sántana's only food during the time that he was practising penance. But this is obviously absurd, and Satohá, I am convinced, is an abbreviation for Sántanu-sthána. Instances are very frequent in which words of any length and especially proper names are abbreviated by striking out all but the first syllable and simply adding the vowel *ú* to the part retained. Thus in common village speech at the present day Kalyán is almost invariably addressed as Kalu, Bhagaván as Bhagú, Balavant as Balú, and Múlchand as Mulú. In the last example the long vowel of the first syllable is also shortened and thus an exact parallel is afforded to the change from Sántanu to Satu or Sato. Sato-thána then by ordinary rule, if only the *th* in the compound is regarded as non-initial, becomes Satohána; and the further loss of the final *na* cannot be regarded as an insuperable difficulty.

An affix, which has itself suffered from organic decay has a tendency to involve its support in the same destruction, and thus I feel no difficulty

in proceeding a step further and interpreting the word 'Paiṭhá' on the same principles as Satohá. It is the name of a large and apparently very ancient village with a temple of Chatur-bhuj, rebuilt on the foundations of an older shrine, which had been destroyed by Aurangzí b. At the back of the god's throne is a hollow in the ground, which has given rise to a local etymology of the usual unscientific character. For it is said to be the mouth of the cave into which the people of Braj 'entered' (*paithá*) when Krishna upheld the Giri-ráj hill, which is about two miles distant from the village, in order to shelter them from the storms of Indra. Absurd as the legend is, it supplies a suggestion: for *paithná*, the verb 'to enter,' is unquestionably formed from the Sanskrit *pravishta;* and if we imagine a somewhat analogous process in the case of the local name, and allow for the constant detrition of many centuries, we may recognize in 'Paithá' the battered wreck of Pratishthána, which in Sanskrit is not an unusual name for a town.

Sthali, a word very similar in meaning to *sthána*, suffers precisely the same fate, when employed as an affix; all its intermediate letters being slurred over and only the first and last retained. Thus Kosi represents an original Kusa-sthali; and Társi with the sacred grove of Tál-ban, where according to the very ancient legend Krishna put to death the demon Dhenuk, is for Tála-sthali.

Another termination which we find occurring with sufficient frequency to warrant the presumption that it is an affix with a definite meaning of its own is *oi*. There are 5 examples of it in the district, *viz.*, Ginḍoi, Majhoi, Manḍoi, Radoi, and Bahardoi. Of these the most suggestive is the first, Ginḍoi. Here is a pond of ancient sacred repute, called Gendokhar-kuṇḍ, which is the scene of an annual melá, the Phúl Dol held in the month of Phálgun. Hence we may safely infer that Ginḍoi is a compound word with Genḍa for its first element. This is not an uncommon name for a Hindu, and its most obvious meaning would be 'a marygold.' So taken it would find a parallel in such proper names as Guláb 'a rose'; Tulsi, the sacred herb so called; Phúl, 'a flower'; and Puhap, for the Sanskrit *pushp*, with the same meaning. It may, however, be doubted whether it did not in the first instance represent rather the Hindi *gainda*, for *gajendra*, 'an elephant.' Besides preserving the name of the village founder, the term Gendokhar-kund is curious in another respect, as shewing a complete popular forgetfulness of the meaning of the termination *okhar* at the time when the word *kuṇḍ* with precisely the same import was added. English topography supplies a case exactly in point; for Wansbeckwater is composed of three words, which all mean exactly the same thing, but were current in popular speech at different times, being respectively Danish, German, and English. But to return to Ginḍoi, which we have found to be a compound word with Genda for its first element; the termination *oi* yet remains to be considered.

I take it to be *vápi*, 'a pond.' By elision of the *p* and change of *v* into its cognate vowel, Genda-vápi becomes Gendau-ai, whence Gindoi; *o* being substituted for *au*, and *i* for *ai* by the following Sútras of Vararuchi, *Auta ot* I. 41. and *I'd dhairye* I. 39. The latter rule, it is true, refers strictly only to the word *dhairya*, which becomes *dhíram* in Prákrit, but it seems not unreasonable to give it a wider application. The above line of argument would command unqualified assent, if it could be shewn that each of the places with the *oi* ending was in the neighbourhood of some considerable pond. There is such a one at Mandoi, called Achárya-kund; and Bahardoi, founded at an early period by Thákurs from Chitor, who only about 30 years ago lost their proprietory rights and now have all migrated elsewhere, is a place subject to yearly inundations, as it immediately adjoins some low ground where a large body of water is always collected in the rains. Radoi I have never had an opportunity of seeing, and therefore cannot say whether its physical characteristics confirm or are at variance with my theory: but at Majhoi, which is a Gújar village on the bank of the Jamuná, there is certainly no vestige of any large pond, which would account for the affix *vápi*. This one proved exception cannot, however, be regarded as a fatal objection; for the same effect may result from very different causes; as, for instance, the Hindi word *bár* in the sense of 'a day of the week' represents the Sanskrit *vára;* while if taken to mean 'water,' or 'a child,' it stands in the one case for *vári*, in the other for *bála*. Thus in the particular word Majhoi, the *o* may belong to the first element of the compound and the *i* be the affix of possession.

A'na is another termination of somewhat rare occurrence. This is in all probability an abbreviation of the Sanskrit *ayana*, which means primarily 'a going,' 'a road,' but is also used in the wider sense of simply 'place.' An example very much to the purpose is supplied by Vararuchi, or rather by his commentator Bhámaha, who incidentally mentions *munjána*, 'a place producing the *munja* plant,' as the Prákrit equivalent for the Sanskrit *maunjáyana*. The district contains nine places which exhibit this ending, *viz.*, Dotána, Halwána, Hathána, Mahrána, Sihána, Kaulána, Mirtána, Diwána, and Barsána. But what was only suspected in the case of the Gindoi group, *viz.*, that all the names do not really belong to the same category, is here susceptible of positive proof. But to take first some of the words in which *ayana* seems an appropriate affix: Dotána, derived on the spot from *dánton*, 'a tooth-brush,' which is suggestive of Buddhist legends and therefore of ancient sanctity, may well be for Devatáyana; Halwána, where an annual melá is celebrated in honour of Balaráma, may have for its first element Hala-bhrit, a title of that hero, the final *t* being elided and the *bh* changed into *v*; while the first syllable in the three names Hathána, Kaulána, and Mirtána, may represent respectively Hasti, Koma,

and Amrit; Amrit Sinh being recorded by tradition as the founder of the last named village. But the resemblance of Diwána and Barsána to any of the above is purely accidental. The former commemorates the Ját founder, one Diwán Sinh, whose name has been localized simply by the addition of the affix *a*, while Barsána has a history of its own, and that a curious one. It is now famous as the reputed birth-place of Rádhá, who is the only divinity that for the last two centuries at least has been popularly associated with the locality. But of old it was not so: the hill on which the modern series of temples has been erected in her honour, is of eccentric conformation, with four boldly-marked peaks; whence it is still regarded by the local Pandits as symbolical of the four-faced divinity, and styled *Brahma ká pahár*, or 'Brahma's hill.' This lingering tradition gives a clue to the etymology: the latter part of the word being *sánu*, which is identical in meaning with *pahár*, and the former part a corruption of Brahma. But this, the true origin of the word, had entirely dropped out of sight even in the 16th century, when the writer of the Vraja-bhahti-vilása was reduced to invent the form Brisha-bhánu-pura as the Sanskrit equivalent for the Hindi Barsána. A somewhat similar fate has befallen the companion hill of Nand-gánw, which is now crowned with the temple of Nand Raé Jí, Krishná's reputed foster-father. Its real name, before Vaishnava influence had become so strong in the land, was Nandí-gráma, by which title it was dedicated to Mahádeva in his character of Nandísvar, and the second person of the Hindu trinity, who has now appropriated all three of the sacred hills of Braj, was then in possession of only one, Gobardhan.

The local name Mai, or Mau, for the one seems to be only a broader pronunciation of the other (in the same way as *náu* is the ordinary village pronunciation for *nái*, 'a barber,' the Sanskrit *napita*), is found occasionally in all parts of Upper India and appears also in the Mathurá district, though not with great frequency.* Twice it stands by itself; twice as an affix, in Pipara-mai and Ris-mai; once in connection with a more modern name of the same place, Mai Mírzá-pur; and twice, as in Ráe-pur Mai and Bara Mai, where the exact relationship with the companion word may be a little doubtful. In most of these cases I consider it to be an abbreviation of the Sanskrit *mahi*, meaning 'land' or 'a landed estate.' The elision of the *h* is not according to any definite rule laid down by the Prákrit grammarians, but certainly agrees with vulgar practice: for example, the word *mahína*, 'a month,' is always pronounced *maina*; and if it were given its full complement of three syllables, a rustic would probably not understand what was meant. At Mai Mírzápur the tradition is that the name commemorates one Mayá Rám; and in the particular case, this very possibly

* Mr. Blochmann informs me that he has noted with regard to this word 'Mau,' that it is found all over the wide area extending from Western Málwá to Eastern Audh, but does not seem to occur in Bengál, Bihár, or Sindh.

may be so; but obviously instances of this very restricted derivation are rare.

Nagar, 'a town,' has always been fairly popular as a local affix, and the Mathurá district contains seven examples of the word so used, *viz.* Rúp-nagar, Sher-nagar, a second Rúp-nagar, Ma'súm-nagar, Rám-nagar, Bír-nagar, and Ráj-nagar. But it is in modern times and as a prefix that it enters most largely into any catalogue of village names. As a rule, whenever now-a-days an over-crowded town throws out a branch settlement, which becomes of sufficient importance to claim a separate entry in the Government rent-roll, it is therein recorded as Nagla so-and-so, according to the name of the principal man in it. On the spot, Nagla Bali, to take a particular case, is more commonly called Bali ká nagara; and after the lapse of a few generations, if the new colony prospers, it drops the Nagara altogether, and is known simply as Bali. The transmutation of the word *nagara* into Nagla and its conversion from a suffix into a prefix, are due solely to the proclivities of native revenue officials, who affect the Persian collocation of words rather than the Hindí, and always evince a prejudice against the letter *r*. It is interesting to observe that in England the Teutonic mode of compounding names differs from the Celtic, in the same way as in India the Hindí from the Urdú: for while the Celts spoke of Strath Clyde and Abertay, the Teutons preferred Clydesdale and Taymouth.

The number of sacred woods and lakes in Braj accounts for the terminations *ban* and *kund*, which probably are not often met elsewhere. Examples of the former are Kot-ban, Bhadra-ban, Brinda-ban, Loha-ban and Mahá-ban; and of the latter, Rádhá-kund and Mádhuri-kund. The only name in this list, about which any doubt can be felt as to the exact derivation, is Loha-ban. It is said to commemorate Krishna's victory over a demon called Loha-jangha, *i. e.* Iron-leg; and at the annual festival, offerings of 'iron' are made by the pilgrims. In the ordinary authorities for Krishna's life and adventures I certainly find no mention of any Loha-jangha, and as we shall see when we come to speak of the village Bandi, local customs are often based simply on an accidental coincidence of name, and prove nothing but the prevalent ignorance as to the true principles of philology. But in the Vrihat-kathá, written by Somadeva in the reign of Harsha Deva, king of Kashmír, A. D. 1059-1071, is a story of Loha-jangha, a Bráhman of Mathurá, who was miraculously conveyed to Lanka: whence it may be inferred that at all events in the 12th century Loha-jangha, after whom the young Bráhman was named by the romancer, was recognized as a local power; and thus, though we need not suppose that any such monster ever existed, Loha-ban does in all probability derive its name from him.

The few local affixes that yet remain require no lengthened notice: of *garh*, or *garhi* there are as many as twenty instances, *viz.* Nílkanthgarhi, a settlement of Jáesvár Thákurs; Sher-garh, a fortress commanding the Jamuná, built in the reign of Sher Sháh; Chamár-garhi, a colony of the factious Gújar tribe; Ahvaran-garhi; Chintá-garhi and Rustam-garhi, founded by Gahlot Thákurs in the reign of Aurangzeb; Badan-garh, commemorating Thákur Badan Siñh, father of Súraj Mall, the first Bharatpur Rájá; I'khú-Fath-garh, founded by one of Súraj Mall's officers; Birjugarhi, Chintá-garhi, 'Ináyat-garh, Kankar-garhi, Lál-garhi, Máná-garhi, Mani-garhi, Rám-garhi, Shankar-garhi, Tilka-garhi, Bharú-garh, and Tálgarhi, all founded by Játs during the fifty years that elapsed between the establishment of their brief supremacy and the British annexation. The name will probably never be used again as a local affix; and its extreme popularity during one half-century constitutes an interesting landmark in Indian provincial history, as proof of the troubled character of the country, when no isolated habitation was thought secure unless protected by a circuit of wall and ditch.

Kherá, as seen in Páli-kherá, Awa-kherá, Pál-khera, Aira-kherá, Sarkand-kherá, and Sel-khera, invariably implies a state of comparative deprivation, which may be either of people or of land, according as it arises either from the emigration of the greater part of its inhabitants to some entirely different locality, or by the formation of a number of subordinate hamlets in the neighbourhood, which divide among themselves all the cultivated area and leave the old bazar merely as a central spot for common meeting.

Patti ordinarily implies a comparatively modern partition of family lands: thus the villages, into which the old township of Magora was divided by the four sons of the Tomar founder, are called after their names, Ajítpatti, Ghátam-patti, Jájan-patti, and Rám-patti: and similarly Bájana was divided by the Játs into three villages known as Dilu-patti, Siú-patti and Sultán-patti. The other four places in the district that have this affix do not, however, bear out the above rule. They are Lorha-patti, Nainu-patti, Patti Bahrám, and Patti Sakti. Neither of these has any companion hamlet dating from the same time as itself; and Nainu-patti is a place of considerable antiquity, which long ago was split up into eleven distinct villages.

Another word of precisely similar import is *Thok*. This is used in the Mahá-ban pargana as an element in the name of five out of the six villages that constitute the Sonai circle, and which are called Thok Bindávani, Thok Gyán, Thok Kamal, Thok Saru, and Thok Sumerú.

Khoh is an exceptional affix, which occurs only once, in Mangal-khoh, the name of a village on a 'creek' of the old stream of the Jamuná.

Of *Saráe* as an affix we have examples in A'zamábád Saráe, Jamál-pur Saráe, Mal Saráe, Saráe-'Alí Khán, Saráe Dáúd, and Saráe Saliváhan. Only

at the two first is there any Saráe actually in existence; both of these are large and substantial buildings erected by local Governors on the line of the old Imperial road between Ágrá and Láhor. The others were probably mere ranges of mud huts, like the ordinary saráe of the present day, and have therefore long since disappeared.

The Persian terminations *ábád* and *ganj*, which predominate so largely in some parts of India, have been little used in Hindí-speaking Mathurá. Of *ábád* there are only six examples, being an average of one to each pargana, *viz.*, A'zam-ábád and Murshid-ábád, each commemorating a local Governor in the reign of Aurangzíb; Aurang-ábád, dating from the same period; Sa'dábád, the chief town on the demesne of Sháh-jahán's minister Sa'dullah Khán; and Ásaf-ábád, Bir-alí-ábád, Gulshan-ábád, and Salím-ábád, named after founders of less historical distinction.

Having thus passed in review every affix denoting 'place,' that we have been able to identify, we proceed to consider the second class of names, *viz.*, those in which the affix signifies 'possession.' The examples under this head are equally numerous and in a philological point of view of no less importance; but the whole series is traversed by a single clue, and if this is grasped at the beginning, it is found to lead so directly from one formation to another, that it precludes all necessity of pausing for lengthy consideration at any particular stage of the argument. Obviously, the simplest mode of expressing possession is by attaching to the name of the owner the grammatical particle, whatever it may be, which in consequence of its familiar use has been selected as the special sign of the genitive or possessive case. This in modern Hindustani is *ká* or *kí*, which we find employed in the following ten words, *viz.*, Barká, Mahanki, Beṛká, Maṛháká, Bhartiyaká, Bhúreká, Káneká, Marhuaká, Saláká, and Súrká. In the last six names on the list the former part of the compound, *viz.*, Bhartiya, Bhúrá, &c., is known to be the name of the Ját founder of the village. Thus we have an indisputable proof that about a century ago it was not at all an uncommon thing to form names of places in this way. If no earlier examples of the formation occur, it is most reasonable to explain their absence by inferring, as in the case of *puri*, that in the course of time the rough edges, that once marked the place where the word and its affix joined, have become so worn and smoothed down that they can no longer be felt. Now by eliding the *k*, a very simple proceeding and one quite in accordance with rule, an amalgamation would be effected between the two elements of the compound which would totally alter their original appearance; and we have only to reinsert it to discover the meaning of many names otherwise unintelligible. Thus Bhálai, a settlement of Bhál Thákurs, is seen to represent *Bhál-ki (basti)*; Bághai is for Bágh-kí; Maḍanai, for Manḍan-kí; Ughai, for Ugra-kí; Mahpai, for Mahípa-kí; and so on. Similarly, Indau is for Indra-ká, and Karnau for Karna-ká: the re-

presentation of *a* + *a* by *au* rather than *á* being almost an invariable practice, as we see in *ráu*, a contraction for *rájá*, *pánw* for *pada*, *nau* for *nava*, and *táu* for *táta*.

Ká however is not the only sign of the genitive case in use; for in the Marwári dialect its place is occupied by *rá*. Of this too there are abundant examples, as might have been anticipated; for some centuries ago, migrations from Rájpútáná into Mathurá were very frequent and in a less degree continue to the present day. Thus, we have Umraurá, Lohrári, Ganesará, Bhurári, Púthri (from *púth*, a sand-hill), Bhainsára, Garumrá (for Garuḍa-rá) and Bágharra, &c. At the last named place the old village site is called *Sher-ká-kheṛá*, which puts the meaning of the word Bágharra beyond a doubt; the reduplication of the *r* being purely phonetic. Other names of a slightly different character are Kunjera (where is Kunj-ban), Ráhera, Ránera (founded by Sissodia Thákurs, who named it after the Ráná of Chitor whence they had migrated), Maghera, Nonera, and Konkera, &c. In these the prolongation of the second syllable of each word makes it probable that the affix is not simply *rá*, but rather *hárá*. This word is known to be exactly identical in meaning with the more common *wálá*, of which, as a component in a village name, we have two illustrations in the district, *viz.* Pípalwárá and Bhadanwárá. It is therefore not in itself unlikely that *hárá* would be used for the same purpose; and the belief that it really has been so used, is confirmed by the fact that Ránahárá and Nonahárá are alternative modes of spelling Ránerá and Nonerá, and are perhaps the more popular of the two among village scribes. In rapid speaking it is difficult to distinguish between the sounds of *ahara* and *era*; as may be familiarly exemplified by the great Hindu festival, the Dasahara, which by people who aim only at representing the vulgar pronunciation, is invariably spelt Dusserah. Thus such words as *kamera* 'a workman,' from *kám*, 'work,' and *chitera*, 'a painter' from *chitra* 'a painting'—being obviously exactly identical in sense with *kám-wálá* and *chitrawálá*—may be best explained by supposing that the original termination was *hárá*; and in the same way Nonerá, meaning 'Salt-town' (from *lon* or *non*, the Hindi form of the Sanskrit *lavana*), if written in full, would be Lavanahárá, or Nona-hárá. These considerations are interesting, since they supply with almost absolute certainty the derivation of the particle *rá* as the sign of the genitive case. It is the second syllable of *hárá*, the first syllable of which is always combined with and lengthens the final vowel of the first member of the compound. The more common *ká*, with precisely the same signification, is of entirely different origin and represents the Sanskrit affix *aka*.

In the same way as *ká* has been unable to resist mutilation, so also with *rá*; though in the latter case it is not the consonant, but the vowel that has suffered. There consequently remains only the letter *r*, which we see

appearing as a final in such words as Kámar, Sahár, Udhar, and Surír. Of these, Kámar (for Kám-rá) is probably an offshoot from the neighbouring town of Kám-ban in Bharatpur territory, a famous place of Vaishnava pilgrimage; while Sahár and Udhar must have been named after their respective founders, who in the one case is known to have been called Udho, or Udhan, and in the other was probably some Sabhá. In Surír, which presents peculiar difficulties, we fortunately are not left to conjecture. For a local tradition attests that the town was once called Sugrív-ká Kheṛá. The resemblance between the two names is so slight that the people on the spot and the unphilological mind generally would not recognize any connection between them: but according to rules already quoted Sugrív-rá would pass naturally into Surír, and the fact that it has done so is a strong confirmation of the truth of the rules.

Both in Sanskrit and also in modern Hindustani, the affix most commonly used in the formation of adjectives that denote possession, is *í*; thus from *dhan* 'wealth' comes *dhaní*, wealthy,' and from *mála* 'a floral wreath,' comes *máli*, 'a florist.' Dr. Hunter, with much perverted ingenuity, has gone out of his way to suggest that the latter are an aboriginal and non-Aryan race and "take their name from the tribal term for man, *male*, from which many hill and forest people of northern and central India, possibly also the whole Malay race of the Archipelago are called." I am not aware that in this theory he has found any followers: whatever the origin of the Malays, there is no more reason to suppose a connection between them and the Mális of our gardens, than between man, the biped, and *man*, a weight of 40 sers. As the letters of the alphabet are necessarily limited, it must occasionally happen that combinations are formed which are quite independent of one another and yet in appearance are identical. Among examples of the *í* affix we find in Mathurá, from *dhímar*, 'a fisherman,' Dhímarí, a fishing village on the bank of the Jamuná; from a founder Husain, a village Husainí; from Pál, the favourite title of a Thakur clan, Pálí; from Pingal, Pingari; from *semal*, the cotton-tree, Semri; from babúl, the acacia, Babúri; from *Khajúr*, Khajíni; and from Kinára, 'the river bank,' Kinárí, &c. A lengthened form of the same affix is *iya*, which we find in Jagatiya and Khándiya.

Another affix, which in ordinary Sanskrit literature occurs as frequently as *í*, and with precisely the same signification, is *val*, *vatt*. In vulgar pronunciation the consonant *v* generally passes into the cognate vowel; thus Bhagavati becomes Bhagoti, and Sarasvati, Sarsúti. I am therefore led to suspect that this is the affix which has been used in the formation of such village names as Kharoṭ, Khatauṭa, Ajinothi, Bilothi, Kajirothi, Basonti, Báṭhi, Jamunauta, Junsuthi, Sonoṭh, Bádauṭh, Barauth, Dhanoti, and Jatarota. All these places are presumably old, and nothing can be stated with certainty as to the period of the foundation, but the

only one of them in any way remarkable is Báṭhi. Here is the sacred grove of Bahula-ban, with the image of the cow Bahulá, who (as told in the Itihás) addressed such piteous supplications to a tiger who was about to destroy her, that the savage beast could not but spare her life. A *melá* in her honour is still held on the fourth day of Kuwár, called 'Bahulá chaturthi.' In every other instance where the *ban* is a place of any celebrity, it has supplied the foundation for the village name, and has probably done so here too. Nor is the transition from Bahulá-ban to Báṭhi at all an isolated one; the change of the dental into the cerebral consonant need present no difficulty, for the same has occurred in the Hindi *paṭṭan* 'a town,' and in *muṛha* 'a fool' for the Sanskrit *mugdha;* but the insertion of the aspirate is an irregularity which it is not equally easy to explain.

A third affix which can be more appropriately noticed here than elsewhere, though it has a somewhat different force, is *a*. This implies primarily 'a product' or 'result.' Thns from *ber*, the fruit tree, comes the name of the village Bera, an orchard of *ber* trees; from Nahar, a man's name meaning lion, Nahra; from Parsu, an abbreviation for Parasu-rám, Parsua; from Ráe [Sen], Raya; from Parameshvar Dás, Pavesara; and similarly Bisambhara, Dandisara, &c.

We may now pass on to the first sub-division of class III, in which are included all such village names as originally were identical, without addition or alteration of any kind with the names borne by the founders: though the original identity, it must be remembered, is no guarantee against subsequent corruption. One of the earliest examples in the district is afforded by the village Son, which is said to have been the capital of a Rájá Son—or more probably Sohan—Pál, a Tomar Thákur from Delhi. Sonkh, Sonsa, and Sonoth, all three places in the immediate neighbourhood, would also seem to be named after him and to prove that he was an historical personage of at least considerable local importance. Another interesting illustration which must also be of early date, is found in the name Dham Siñha. Here Dham, which is the obsolete Prákrit form of *dharma* and is not understood at the present day, runs a great risk of being altered by people who aim at correctness but lack knowledge, into the more intelligible word *dhan*. In modern times this style of nomenclature has been so prevalent that a single Pargana—Mahá-ban—supplies us with the following examples, *viz.* Bírbal, Gaju, Misri, Bhúra, Súraj, Báṛu, Rausanga, Nauranga, Mursena, Bansa, Bhojua, Bhíma, and Súr. Of these, Rausanga for Rúp Sinha would scarcely have been recognizable but for the aid of local tradition. Occasionally, the names of two brothers, or other joint founders, are combined, as we see in Sampat-jogi, Chúra-hansi, Bindu-buláki, and Harnaul. The latter is a curious contraction for Harna Navala; and as 'the swing' is one of the popular institutions of Braj, the word not unfrequently passes through a further

corruption and is pronounced Hindol, which means a swing. This will probably before long give occasion to a legend and a local festival in honor of Rádhá and Krishna.

Under the same head comes the apparently Muhammadan name Noh; which, with the addition of the suffix *jhíl*, is the designation of a decayed town on the left bank of the Jamuná to the north of the district. At no very great distance, but on the other side of the river, in Gurgánw, is a second Noh; and a third is in the Jalesar Pargana, which now forms part of the Ágrá district. So far as I have any certain knowledge, the name is not found in any other part of India; though it seems to occur in Central Asia, for the Yárkand expedition is stated in the papers to have reached Leh viâ Khotan, Kiria, Polu, and Noh, by the easternmost pass over the Kuen-lun mountains. Upon this point I may hope to acquire more definite information hereafter; the best maps published up to the present time throw no light on the matter, for though they give the towns of Kiria and Khotan, they do not show Noh, and its existence therefore requires confirmation. The three places in this neighbourhood all agree in being evidently of great antiquity, and also in the fact that each is close to a large sheet of water. The lake, or morass, at Noh-jhíl spreads in some years over an area measuring as much as six miles in length by one in breadth. It is no doubt to a great extent of artificial formation, having been excavated for the double purpose of supplying earth with which to build the fort, and also of rendering it inaccessible when built. The inundated appearance of the country combines with the name to suggest a reminiscence of the Biblical Deluge and the Patriarch Noah. But the proper spelling of his name, as Mr. Blochmann informs me, is Núh, with the vowel *ú* and the Arabic *h*. Badáoní, who twice* mentions the town, spells it with the imperceptible *h*; but in the Áín-i-Akbarí, which herein agrees with invariable modern usage, the final letter is the Arabic *h*. Again, if a reference to the Deluge were intended, the word Noh would not have been used simply by itself; and standing as it does, it can scarcely be other than the name of the founder. But (again to quote Mr. Blochmann) "Muhammadans use the name Núh extremely rarely. Ádam, Músá, Yúsuf, and Ayúb are common; but on looking over my lists of saints, companions of Muhammad, and other worthies of Islám, I do not find a single person with the name Núh; and hence I would look upon a connection of Noh with Noah as very problematical. I would rather connect it with the Persian *núh*, 'nine,' which when lengthened becomes *noh*, not *núh*; as the Persian *dih*, 'a village,' becomes *deh*, not *díh*." But if we abandon the Semitic name, it will be better, considering the purely Hindu character of the country, to try and fall back upon some

* Once as the scene of a fight between Iqbál Khán and Shams Khán of Bayánah (A. H. 802), and again as the place where Mubárak Sháh crossed the Jamuná for Jartolí.

Sanskrit root, and I am inclined to regard the name as a Muhammadan corruption of *nava*—not the adjective meaning 'new,' but a proper name—and with the *h* added either purposely to mark the distinction, or inadvertently in the same way as *rájá* is in Persian characters incorrectly written *rájah*. In the Harivansa (line 1677) mention is made of a king Ushinara, of the family of Kaksheyn, who had five wives, Nrigá, Krimí, Navá, Darva, and Drishadvati. They bore him each one son, and the boys were named Nriga, Krimi, Nava, Suvrata and Sivi, of whom Nava reigned over Navarásh-tram; Krimi over Kumilá-puri; Sivi, who is said to be the author of one of the hymns of the Rig Veda (X. 179), over the Sivayas, and Nriga over the Yaudheyas. In the Mahábhárat the Usinaras are said to be a lower race of Kshatriyas. They are mentioned by Pánini in a connection which seems to imply that they were settled in or near the Panjáb; and in the Aitareya Brahmana, Usinara is collocated with Kuru and Panchála. Again, Drishadvati, the fifth of Usinara's wives, recalls to mind the unknown river of the same name which is mentioned by Manu as one of the boundaries of Brahmávarta, and in the Mahábhárat as the southern boundary of Kurukshetra. From all this it may be inferred that the Navarásh-tra, over which Usinara's third son Nava reigned, cannot have been far distant from Mathurá and Gurgánw; and its capital may well have been the very place which still bears his name under the corrupt form of Noh or Nauh.

The second subdivision of Class III is of an extremely miscellaneous character and admits of no grouping, each name having a separate individuality of its own. Some of the more obvious examples have been already quoted: such as are Basai, 'a colony,' for the Sanskrit *vasati* (which at the present day is more commonly abbreviated by the alternative mode into *basti*); Chauki, an outpost, on the Gurgánw road; Nagariya, 'a small hamlet'; Baṛhá 'a removal'; Gaṛhi, 'a fort'; Mai, 'an estate'; Khor, 'an opening' between the Barsána hills; Ányor, 'the other end' of the Gobardhan range; Pura, 'a town;' Kheriya, 'a hill;' and Toli, 'an allotment.' Others require more detailed explanation on account either of their intrinsic difficulty, or of the mythological disguise put upon them by the local pandits, who think there is no place in the whole of Braj which does not contain some allusion to Krishna. Thus they connect the word Mathurá with the god's title of Madhu-mathan, forgetting that the country certainly existed and, for all that is known to the contrary, bore the same name as now for ages prior to the incarnation in which that title was acquired. The more natural derivation is from the root *math* direct, in its primary sense of 'churning;' an exact grammatical parallel being found in the word *bhidura*, 'breakable,' a derivative from the root *bhid*, 'to break.' The name thus interpreted is singularly appropriate; for Mathurá has always been celebrated for its wide extent of pasture-land and many herds of cattle, and in all poetical descriptions of the

local scenery 'the churn' is introduced as a prominent feature. I observe that Bábu Rájendralála Mitra in a learned article on the Yavanas, comprised in the earlier part of this volume, has incidentally remarked upon a passage in the Sánti Parva of the Mahábhárat, in which the word Madhura occurs, that this is the ancient form of Mathurá. Now I should hesitate to dispute any statement deliberately made by so eminent a scholar, but this appears to be a mere *obiter dictum*, and I strongly doubt whether in the whole range of early Sanskrit literature the capital of Braj is ever designated Madhurá. In the particular passage which he quotes, Lassen regards the word as the name of a river; and that the well-known city in the Dakhin is in the vernacular always spelt Madhurá in no way affects the argument; for even if the two names are etymologically identical, which is probable but not certain, the dislike shewn by all the languages of the south to the use of hard consonants is quite sufficient to account for the alteration.

Similarly, the name of the country, Braj, or Vraja, has nothing to do with the Vajra Sena, the son of Aniruddh, who is said to have been crowned king of Mathurá on Krishna's death; but comes immediately from the root *vraj*, 'to go', and is thus a highly appropriate designation for a land of nomadic herdsmen. Equally at fault is the mythological derivation of 'Bathen,' the name of two large villages in the Kosi Pargana, where Balaráma, it is said, sat down (*baithen*) to wait for Krishna. Here again the real reference is to the pastoral character of the country, *bathan* being an archaic term to denote a grazing-ground. A still greater and more unnecessary perversion of etymological principles is afforded by the treatment of the word Khaira. This is derived from the root *khedna*, 'to drive cattle', which was Krishna's special occupation as a boy: but it is in fact only the regular contraction of the Sanskrit *khadira*, the Acacia Arabica, more commonly known as the *babúl*; as is proved by the contiguity of the village to the *Khadira-ban*, one of the twelve sacred groves. A somewhat similar tree, as may be observed in passing, the *lodhra*, or Symplocos, has probably furnished a name for the village of Lohi in the Máṭ Pargana: while the Tinduk Ghát at Mathurá is probably so named not in honour of any pious ascetic, but with reference to the *pasendu*, or Diospyros, one of the most common trees in the district, which in Sanskrit is called Tinduka.

But the most interesting example of an elaborate myth based solely on the misunderstanding of a local name is to be found in the village of Bandi. Here is a very popular shrine, sacred to Bandi Anandi, who are said to have been two servants of Jasoda's, whose special employment it was to collect the sweepings of the cow-shed and make them up into fuel. But in the inscription over the gateway leading into the court-yard of the temple, which is dated *Sambat* 1575, there is no mention of Anandi whatever. Part is illegible, but the first words read clearly as follows: *Svasti*

srí Sarvopari birájamán Bandi Jí. Tasya sevak, &c. From this it may be inferred that Anandi has been added in very recent times simply for the sake of the alliterative jingle, and because there happened to be a second old figure on the spot that required some distinctive name. The original word was Bandi alone. The Gokul Gosains support their theory as to its etymology by making the Gobar Líla at Bandi one of the regular scenes in the dramatic performances of the Ban-játra; but it is not accepted by the more old-fashioned residents of the village, who maintain that the local divinity was a recognized power long before the days of Krishna, who was brought there to offer at her shrine the first hair that was cut from his head. Their view as to the relative antiquity of the Bandi and the Mathurá god is certainly correct; for both the images now believed to represent Jasoda's domestic servants are clearly effigies of the goddess Durgá. In the one she appears with eight arms, triumphing over the demon Mahishásur; in the other which is a modern fac-simile, made at Brinda-ban, of the mutilated original, she has four arms, two pendent and two raised above the head. Neither of them can represent a human handmaid; and thus they at once disprove the modern story, which would seem to be based on nothing more substantial than the resemblance of the word *bandi* to the Persian *banda*, meaning 'a servant.' The real derivation would be from *bandya*, or *vandya*, the future participle of the verb *vand*, signifying 'venerable' or 'worshipful.' Thus what was once an epithet of a particular image of Devi became after a time its distinctive name; and eventually, being referred by the ignorance of the people to a more ordinary term of current speech, has originated a legend and a local festival for which in fact there is no foundation whatever.

The above is one illustration of a general rule that all presumably ancient local names are entirely different in origin and meaning from any terms of current speech with which they may happen to be identical in form. Thus, as we have already seen, the village Parson has no connection with *parson*, the common adverb of time; neither is Paitha so named, as being near the mouth of the cave into which the people of Braj 'entered' (*paithá*). Again, Rál, a large village in the Mathurá Pargana, is not so called as being the scene of one of Krishna's 'battles' (*rár*), as local pandits say; nor because the extensive woods round about it abound in *rál*, or 'resin:' but rather it is a contraction of Raja-Kula, 'a king's house;' a compound of similar character with Gokul, 'a cow house,' the name of the town where Krishna was nurtured by the herdsman Nanda. Rával, a village in the same neighbourhood, the reputed home of Rádhá's maternal grandfather Surbhán, may be identical in meaning; or it may even represent an original Rádhá-kula, in which case it would be curious as affording the earliest authority for Rádhá's local existence and pre-eminent rank. Koila again is evidently not

the bird called in Sanskrit *Kokila* and in Hindi *Koil*; for who would dream of calling a place simply Cuckoo without any affix such as in the possible compound Cuckoo-town? Neither is it the exclamation *Koi lá*, uttered by Vasudeva as he was bearing the infant Krishna across the Jamuná; for whatever the language then in vogue, it certainly was not modern Hindí: nor again, and for a similar reason, does the word Koila mean 'charcoal' with a reference to the ashes of the witch Pútaná, washed across the stream from the town of Gokul. But it may be taken for granted that the final consonant stands for *rá* and has the possessive force of that particle, while the former member of the compound is either *Koi*, 'the water-lily,' or *Kol*, for *Kroṛa*, 'a wild boar.' The extensive morass in the neighbourhood, well-known to sportsmen as the Koila jhil, renders either derivation probable and appropriate. If the fact were not now placed on record, a few more years and the philologists who look for the origin of Indian names in every language saving only the vernacular of the country, would seize the opportunity of declaring Koila to be merely a mis-pronunciation of the English 'quail.' Similarly, it may reasonably be conjectured that Kukar-gama is not so called because a Banjára in his travels happened to bury beside the village pond a favourite dog (*kukar*), though the slab supposed to cover the dog's grave is still shewn; but rather, as the village is certainly of ancient date and was colonized by Thákurs from Chitor, it is more probable that its name commemorates the otherwise unknown founder, since Kukura occurs in the Mahábhárat as the proper name of a king, and may therefore have been at one time in common use. To pass yet more rapidly over a few other illustrations of the same rule, that apparent identity is equivalent to real difference: Kámar does not commemorate Krishna's gift of a blanket (*kamal*) to the shivering hermit Durvásas, but rather implies a migration from the older town of Káma; 'Ainch' does not refer to the 'stretching' of Krishna's tent-ropes, though the real derivation is doubtful; 'Jáu' is not the imperative verb 'go,' but a corruption of *yáva*, 'lac;' Marna, now altered by office copyists to Bharna, has no relation to the 'death' of one of Krishna's enemies; and 'Jait' is not simply an abbreviation for *jaitra*, but (as shewn by the village pronunciation Jaint) represents an original Jayanta, which occurs in Sanskrit as the name both of a river and a country.

It must, however, be borne in mind that the application of this rule is restricted exclusively to local names of ancient date. Thus the name of the village Sanket is really identical with the Sanskrit word *sanket*, meaning 'an assignation' or 'rendezvous;' the place which lies halfway between Barsána and Nandgánw, the respective homes of Radhá and Krishna, having been so called by the Gosáins of the 16th century with the special object of localizing the legend. Similarly, Pisaya with its beautiful forest of kadamb trees, to which the author of the Vraja-bhakti-vilása gives

the Sanskrit title of Pipása-vana, may really bear a name identical with the Hindi word *pisaya*, 'thirsty' if the name was first assigned to the spot by the Gokul Gosáins as a foundation for a story of Rádhá's bringing a draught of water for the relief of her exhausted lover. But this is questionable, since it appears that there is a place with the same name, but without any similar legend, in the Alígarh district ; and both are therefore most probably far anterior to the 16th century and susceptible of some entirely different explanation.

In all these and similar cases it is impossible to arrive at sound conclusions without a large amount of local knowledge ; while the absurdity of the explanations advanced by the local Pandits demonstrates the equal necessity for acquaintance with at least the rudimentary laws of philological science. Scholastic speculations made without reference to physical features or the facts of village history are always liable to summary disproof; and no one with any respect for his own reputation should think of pronouncing off-hand upon the derivation of the name of any place regarding the circumstances of which he has not very definite information. For example, as the village Jaṭi-pura is on the border of the Jáṭ state of Bharatpur, what could be more plausible than to say that it is so called as being a Jáṭ colony ? but as a fact, it has always been inhabited by Bráhmans, and its founder was the Vallabhácháryа Gosain Biṭṭhalnáth, who was popularly known by the name of Jaṭi jí. Again, Lodhauli (in accordance with the principles stated in the earlier part of this paper) might be at once set down as equivalent to Lodha-puri ; but here too the caste of the residents forbids such a derivation, for they have always been not Lodhas, but Jádons ; and the modern name is a perversion of Lalitá-puri. Phálen again and Siyára would be inexplicable but for the knowledge that they are built, the one on the margin of a pond, called Prahlád-kuṇḍ, and the other by the Chír Ghát, a very ancient and now comparatively neglected *tírath* on the Jamuná. The confusion between the letters *s* and *ch* is one of the peculiarities of the local dialect. Thus Amar Siñh is frequently called Amarchu ; and the village of Parsua, in the mouths of the villagers on the spot, is indistinguishable from Pilchua.

Although it may safely be laid down as a general principle of Indian toponymy that the majority of names are capable of being traced up to Aryan roots, it is possible that the rule may have some exceptions. In the Mathurá and Mainpuri districts there is a current tradition that the older occupants of the country were a people called Kalárs. The name seems to support a theory advanced by Dr. Hunter in his Dissertation, where he quotes a statement from some number of the Asiatic Society's Journal to the effect that the whole of India was once called Kolaria. On the strength of a number of names which he sees in the modern map, he concludes that the race, from

whom that name was derived, once spread over every province from Burma to Malabar. He finds indications of their existence in the Kols of Central India; the Kolas of Katwár; the Kolís of Gujarát; the Kolitas of Asám; the Kalárs, a robber caste in the Tamil country; the Koláras of Tinnevelly, and the Kolís of Bombay, &c., &c. Upon most of these names, as I have no knowledge of the localities where they exist, I decline to offer any opinion whatever, and can only express my regret that Dr. Hunter has not exercised a little similar caution. For he proceeds to give a list of town-names, scattered as he says over the whole length and breadth of India, which seems to me of the very slightest value as a confirmation of his theory. No one should be better conversant than himself with the vagaries of phonetic spelling; and yet he gravely adduces as proof of the existence of a Kol race, such names as Kulianpur and Kullian; though it is scarcely possible but that, if correctly spelt, they would appear as Kalyánpur and Kalyán; the latter being still a popular Hindi name and the Sanskrit for 'auspicious'. Moreover, if the race was ever so widely spread as he supposes, it is inconceivable that they should give their tribal name to the different towns they inhabited; for such names under the supposed circumstances would have no distinctive force. For example, if the Hindus were suddenly to be swept out of India, the race that superseded them would not find a single village bearing such a name as Hindu-pur, or Hindu-gánw. Obviously it is only a country that derives its name from a tribe, while towns and villages commemorate families and individuals. To ascertain who the Kalárs were is certainly an interesting question, but one upon which it is as yet premature to speak positively. My own impression is that the name denotes a religious rather than an ethnological difference and that they were—in this neighbourhood at all events—Buddhists or Jains. At many of the places from which they are said to have been ejected by the ancestors of the present Jáṭ or Thákur families, I have found fragments of Buddhist or Jain sculpture, which can only have been the work of the older inhabitants, since it is certain that the race now in possession have never changed their religion. It is if course possible that these Kalárs may have been non-Aryan Buddhists; but the old village names, which in several cases remain unchanged to the present day, such as Aira, Madem, Byonhíṇ, &c., though of doubtful derivation, have certainly anything but a foreign or un-Indian sound.

These and a considerable number of other names yet require elucidation: but the words with which I prefaced Part II of my Mathurá Memoir in anticipation of the present argument, have now I trust been so far substantiated that I may conclude by repeating them as a summary of actual results. "The study of a list of village names suggests two remarks of some little importance in the history of language. *First*, so many names that at a hasty glance appear utterly unmeaning can be positively traced back to

original Sanskrit forms as to raise a presumption that the remainder, though more effectually disguised, will ultimately be found capable of similar treatment: a strong argument being thus afforded against those scholars who maintain that the modern vernacular is impregnated with a very large non-Aryan element. *Secondly*, the course of phonetic decay in all its stages is so strictly in accord with the rules laid down by the Prákrit Grammarians, as to demonstrate that the Prákrit of the dramas (to which the rules particularly apply), even though extinct at the time when the dramas were written for the delectation of a learned audience, had once been the popular language of the country; and as Anglo-Saxon imperceptibly developed into modern English, so has Prákrit been transmuted into modern Hindi, more by the gradual loss of its inflections than by the violent operation of any external influences." Thus the recognition of Persian or any dialect of Persian as the vernacular of the country implies an historical untruth as regards the past and can only be verified in the future by the obliteration of all existing traditions.

Transcript of the Pála Inscription of the Buddal Pillar, Dinájpúr, by Paṇḍit Harachandra Chakravatí. *Communicated by* E. V. Westmacott, C. S.—*With an annotated translation by* Pratápachandra Ghosha, B. A., *Assistant Secretary, Asiatic Society, Bengal.*

In the 1st volume of the 'Asiatic Researches,' a translation is given of this inscription by Wilkins, but without the text. A short time ago, Mr. E. V. Westmacott, C. S. obtained a transcript from Paṇḍit Harachandra Chakravartí which is given below with a fresh translation.

Mr. Westmacott says that Buddal was a factory in the Company's commercial days; it is on the Kulkulí-kharí, about ten miles E. N. E. from Patnitala Police Station. The pillar is less than a mile N. E. of it, near Mangalbárí, and goes by the name of 'Bhím's ox goad' (*Bhímer Pánti*).

1. ख्यातः शाण्डिल्यवंश्यैको वीरदेवस्तदन्वये ।
पाद्मालो नाम तद्वोचे गर्गस्तस्मादजायत ॥
2. अस्माः पुरोदिग्विपति र्न दिग्गजेषु
तथापि दैत्यपतिभि र्जितनन्दनः सः ।
- - - - - - - - धर्म्मपरायणः स
तस्यामुपैति निजदास इहस्थितिं यः ॥
3. पत्नीच्छा नाम तस्यासीदिच्छयाप्सर्विवर्त्तिनी ।
निसर्गविमलस्निग्धा साध्वी प्रेममयी शुभा ॥

4. विद्यासु यूपमुख - - - - - - - -
- - - - - - - - परिगतश्लोकं ।
स्वनुजयोः कमलयोनिरिव द्विजेभ्यः
श्रीदर्भपाणिरितिनामनि सुप्रसिद्धः ॥

5. यारेवाजनकान्मतङ्गजमदस्निग्धश्चिला संहत-
रागैरी पितुरीश्वरेन्दुकिरणैः पुष्णत् क्षितिक्ष्मो गिरेः ।
मार्गश्रान्तमयोदयाचलजलादावारिराशिद्रथात्
नीत्या यस्य भुवं चकार करदां श्रीदेवपालो नृपः ॥

6. मात्सर्यानलजेन्धनेवदनवरतोच्छ्वासिदानप्रवाहैः
क्लिन्नक्षोणीतलप्रवर्धनरजः सम्भूताभा विकाशं ।
दिक्चक्रायातभूभृत्परिकरविसरद्वाहिनी दुर्विलोकं
प्राप्य श्रीदेवपालो नृपतिरवसतापेक्षया द्वारि यस्य ॥

7. द्रह्माण्यमण्डुपच्छविपीठमये
यस्यासनं नरपतिः सुरराजकल्पः ।
नानानरेन्द्रमुकुटाङ्कितपादपांशुः
सिंहासनं सचकितः स्वयमाससाद ॥

8. तस्य श्रीमत्करादेव्या मनोः सोम इव द्विजः ।
बभूव सोमेश्वरः श्रीमान् परमेश्वरवल्लभः ॥

9. न भाग्यं विकटं धनञ्जयतुलामारुह्य विक्रामता
वित्तान्यर्थिषु वर्षता स्तुतिगिरो नोद्गर्व्यमाकर्णिताः ।
नैवोक्तं मधुरं वचः प्रणयिनः सभ्रान्तिनासश्रिया
येनैवं स्वमुपैर्जनद्विसदमैक्षि सतां विस्मयः ॥

10. शिव इव करं शिवायां हरिरिव लक्ष्म्यां स्वयाश्रमप्रेप्सुः ।
अनुरूपायां विधिवत् तरलादेव्यां पाणिं अग्राह ॥

11. — — — — — — — — — — — — — —
दुर्वोधोऽथ सुतस्तयोः सुनयपरिगता शेषविद्याप्रतिष्ठः ।
भार्यां जन्म प्रपेदे चिदमलजनमनो नन्दनः सुस्त्रियाभिः
श्रीमान् केदारमिश्रो मुद इव विलसद्गीतरूपप्रभावः ॥

12. भास्वद्भूमनसम्पीत चतुर्विद्यापयोनिधीन् ।
अद्वासामसाम्यसम्पत्तिमुद्भिरन्नश्चिरान्नु यः ॥

13. उत्क्षीणोत्कलकुलं कृतक्षमगर्वं
खर्वोन्नतद्रविडगुर्ज्जरराजदर्पं ।
भूपीठमश्चिरसनाभरणं बुभोज-
गौडेश्वरश्चिरमुपास्य श्रियं यदीयां ॥

14. स्वयमपहृतविज्ञानर्थिनो योवनेने
द्विषदि सुहृदि दासीनिर्विवेको यदात्मा ।
भवजलधिनिपाते यस्य शीर्णेतपापा

परिच्छदित कंसं यो यः परे धाम्नि रमे ॥

15. यस्यांघ्रेषु दृढस्फुटप्रतिफलनैः श्रीसूरपालो नृपः
सांचादिन्द्र इव प्रजा प्रियवलो गत्वा भूयः स्वयं।
नानाभोगिविभोगखेलस जगतः कल्याणमङ्गा चिरं
गङ्गाभःसुतमानसो नतशिरा जग्राह पूतं पयः ॥

16. देवग्रामभवा तस्य पत्नीवन्धा — — —।
— — — — — — — — — — — ॥

17. सा देवकीव तस्मायशोदया क्षीरतनिव क्षयं।
गोपालप्रियकारकमसूत पुरुषोत्तमं तनयम् ॥

18. जगदग्निकुलोत्पन्नः सम्यग्नचचिन्मकः।
यः श्रीगुरवमिश्राख्यो रामसेन इवापरः ॥

19. कुशलो गुणान् विवेक्तुं विजितेषु यं नृपः प्रपदं स्वगमति।
श्रीनारायणपालः प्रश्नस्थिरपरा क्रियत्यस्यैव ॥

20. नानाकाव्यरसागमेष्वधिगमो नीतौ परा निष्ठता
वेदोक्तानुगमाद्यौ प्रियतमो वङ्गस्य सम्बन्धिनां।
यासन्निर्गुणकीर्त्तनेषु महतां विख्यातविख्योतिषो
यस्यानल्पमतेरमेयवयसो धर्म्मावतारो मदः ॥

21. यस्याग्रियः शासति वागधीश विहाय वैराणि निसर्गजानि।
उभे स्थित सख्यमिवाभिगन्त्रावेकत्र लक्ष्मीश्च सरस्वती च ॥

22. शास्त्रानुशीलनगभीरफलैर्विवादे
विद्वत्सभासु परवादि मदानुलेपः।
उद्भासितः सपरितो रिपुविद्विषाञ्च
नश्लोकविक्रमवरेण हृताभिमानः ॥

24. सदसैव वलं न यस्य यस्त्राधनत्यपि न कळेषु यन्न किंचित्।— — — —
कलिदानमपि यस्य न जातु शान्तं।— — — —

25. ऋतिलोल पलित कलियुग वाल्मीकि यमपि शूरश्वर वर्णयति — — —

26. वाणी प्रसन्नगभीरा विरोतिव पुनातिव।
पितरं स्वयमाशाय पुत्रमुपगमत् स्वयं।
शक्नोति पुरुषात् यस्य — — यं च प्रपेदिरे। गोदा — — — —

27. स्वकोय वपुषो लोके स्वस्य गाहिषि स्वादि————

28. == — — फलिनां दृष्टः प्रियसख आर्यौपमरोपिन।

TRANSLATION.

I. There was one of S'aṇḍilya race known as Víradeva, from him descended one by name Pánchála, in his family and of him was born Garga.

From the Sanskrit it appears that Garga was the son of Pánchála, and that Víradeva was one of the ancestors of Garga. The latter might have been the father of Pánchála, but there is no doubt whatever as to Garga being the son of Pánchála, as the Sanskrit has "of him was born" तस्मादजायत. Wilkins has left out the word "जात" "known."

II. (This prince, like) S'akra, lord of the eastern quarter, but not of other quarters, though defeated by Daitya chiefs.....gained (mastery over) the world by his devoted piety and derided Vrhaspati.

S'akra is another name of Indra, the lord of the firmament. He is also worshipped as one of the Dikpálas or lords of the ten quarters. He rules over the eastern quarter; the text has it, "पुरोदिग्विपति," but Wilkins has omitted it; he says, "Sakra was ruler but of one quarter." तथापि literally means "notwithstanding." It has been rendered "though." The text has "जितनन्दनः स," which means "defeated the son he." I have rendered the "son" by "Prince." Wilkins appears to have ignored the last portion of the 2nd line. There is a blank in the text, and it affects the sense a great deal; but, as it is, it means that Indra, though lord of the eastern quarter only, became lord of the whole world, because he had Vrhaspati for his adviser. Hence, this prince like him, though lord of one small portion of the country, became by his piety, lord of the world and that too without the aid of Vrhaspati's advice, whom he could well afford to deride.

III. His wife was named Ichchhá, who could move his heart at her will: she was by nature pure and gentle, faithful, loving, and auspicious.

Wilkins adds, "Ichchha like *love*" meaning perhaps "like Rati the goddess of love." This does not occur in the text. Again, the text does not say "she was admired," it has "(she was) naturally pure, स्निग्धा = gentle, साध्वी = faithful, प्रेममयी = loving, full of love. शुभा = auspicious; according to Hindu astrology certain signs and marks make a person auspicious." Mr. Wilkins has "and her beauty was like the light of the moon". The two lines of the text have nowhere any term to indicate the moon, unless Wilkins has been misled by स्निग्धा = cool.

IV. In sciences he was (as high as) the pinnacle of a triumphal column the triple world lay before him.

Their (Garga and Ichchhá's) son was like the lotus-born chief of the twice-born and was well-known by the name of S'rídarbhapáṇi.

Wilkins has — "in his countenance, which was like the flower of the waters, were to be traced the lines of the four sciences. The three worlds were held in subjection by his hereditary high rank." The equivalents word for word are विद्यासु in the sciences; यूप is a triumphal column or any column, यूपमुख = the face or the pinnacle of the top of the यूप; परित = all round lay; त्रिलोक = three worlds. Of these two, namely Garga and Ichchhá, was born the son named S'rí-Darbha-Páni, (Lotus-born is Brahmá. Dvija is a bráhman) who was like Brahmá the chief of Bráhmans. Wilkins has, "he took unto himself the name of:" but the text has इति नामनि प्रसिद्धः was renowned by the name of S'rí Darbha Páni. The text has तयो the Genitive Dual of तत् = He, that; hence तनुजयो = son of the two and not of "these two was descended," which is inaccurate.

V. From the source of the Revá where heaps of stone saturated with the *mada* (juice exuding from the head of) lustful elephants to (the foot of the) father of Gaurí (Mount Himalaya), whose whitened hills are nourished by the rays of the moon (on the forehead) of I's'vara. From the waters of the setting sun to those of the rising Aruṇa, between the two vast waters

(lay) the world, which by his (S'rí Darbha Páṇí's) policy Prince Sri Deva Pála rendered tributary.

The text after mentioning "from the source of the Revá" parenthetically describes the place, and similarly, after mentioning the Himálaya, describes its peaks. Wilkins confounds the two parenthetical sentences and applies them both to the Himálaya. The glory and greatness of the minister S'rí Darbha Páni is enhanced by stating that Prince Sri Deva Pála being advised by him made the vast country described above tributary to himself. From this and the following stanzas it will appear that the descendants of S'aṇḍilya family were always ministers of the Pála rájás and their greatness was dependent upon the greatness of the princes they served. It is noteworthy that the text has the setting and the rising oceans instead of the usual rising and setting hills. Another transcript has the following reading for the last part of line I of this stanza—वरावख्याब्धिपारेभूते.

VI. At whose (S'rí Darbha Páṇí's) gate stood waiting prince S'rí Deva Pála, having received the dazzling moving army of the multitude of assembled chieftains from surrounding quarters where the prospect was filled with (bending?) advancing waves of thick dust arising from the earth and moistened by the exudation of liquor gushing from the mouths of various lustful big elephants.

Wilkins has not noticed, it appears, the participle verb प्राप्य = "having received"; and hence the confusion of meaning and sense. His rendering, however, gives a much better sense; but it must be noted that the ideas belong to him rather than to the text. दुर्विलोक = is not hidden, but difficult to be gazed at, *i. e.* dazzling bright. भङ्ग = waves, प्रवण = bending, घन = thick, रज = dust, भृत = filled with, आशाविकाश = (आशा = quarters of the globe) + (विकाश = expansion) = prospect.

It is said that a kind of venous liquid flows from the head of lustful (*mast*) elephants. This sweet liquor attracts lots of bees who are seen to buzz round the heads of such elephants. दान = The liquor exuding from the head of elephants. दिक्चक्र = the circle of the quarters or points of the compass, circus of all sides. विसर्पत् = moving.

VII. At whose throne in earlier days he used to pay down no small sum of piṭhas, bright as the moon, the ruler of mankind, the image of the lord of the gods, and the dust of whose feet was marked with the diadems of sundry chiefs of people, gloriously possessed himself of his own throne.

पिढ = a small silver coin. उडुप = moon (उडु = star प = lord), and hence the piṭhas were as bright as the moon, and not "as the lunar rays," as Wilkins has it. Lord of men who was like the image of Indra, and whose feet, &c.,..... in earlier days having given pithas to whose throne assumed his own. The phrase यस्यासनं appears to be a mistake for यस्यासने.

VIII. To him was born of the princess S'arkará the fortunate Somes'vara, twice-born like Soma, the son of Atri and favourite of the supreme God.

IX. Who was neither elated nor tyrannous for having attained a power equal to that of Arjuna, who would not listen with a vain-glorious

feeling to the laudatory addresses of the poor, because of having lavished riches on them, nor utter sweet words but cherished his friends by his prosperity: who by his virtues unparalleled in the world became an object of admiration with good men.

X. Desirous of attaining the estate of a family-man he accepted, agreeably to the law, the hand of the princess Taralá, who was after his own image, as Siva did the hand of Sívá and Hari that of Lakshmi.

गृहाश्रम is the second state of one's life. It comes after Brahmachari. It is the estate of a family-man.

XI. Of this pair was born the fortunate Kedáranátha Misra, resplendent as Guha, renowned for beauty and personal valour, gifted with the power of learning the most abstruse sciences, and possessed of a reputation for infinite knowledge, acquired by his own good sense, and capable of gladdening the wants of celestial beings by his good actions.

Guha = Kumára or Kártikeya.

XII. Who having drunk the ocean of the four sciences with the bright eyes of knowledge, brought them forth again and laughed at the unsteady reputation of Agastya.

The story is that the sage Agastya once drank up the ocean, taking the water in the palm of his hand, but found it difficult to bring it up again. This prince was far superior to Agastya in this respect. He drank up the ocean of knowledge with his eyes and by giving instruction to others brought it forth much more easily than the sage.

XIII. Trusting to whose wisdom the lord of Gauḍa for a long time enjoyed the surface of the sea-girt earth by eradicating the race of the Utkalas, conquering the haughtiness of the Huns, and humbling the pride of the kings of Gujjra and Dráviḍa.

XIV. Who considered them most needy from whom he had acquired wealth, whose mind never made any distinction between friend and foe, who was afraid of falling into the ocean of the world (of mortal birth) and was purged of all sins and who delighted in (contemplating) the world to come.

Wilkins' rendering of this passage is peculiar. In the first phrase अपहृतविभागर्थिनो, he makes the following alteration before his meaning can be grammatically correct—विभाग्यर्थिनो. But taking अपहृतविभान् as an adjective to जनान् understood, the sense appears to be clear. That is, he considered them only अर्थिनः, *i. e.* needy, deserving his charity, from whom he had acquired wealth, *i. e.* he was charitable to the defeated princes and to his subjects, from whom he had acquired wealth by way of tribute or toll.

XV. Prince S'rí S'ura Pála, the Indra, whose strength lay in the love of his subjects, and who was identified with the welfare of his ocean-

girt world, constantly repaired to him, the image of Vrhaspati, and received, with his head bowed and mind purified, the pure water as that of Gangá.

Receiving water means 'was anointed king.'

XVI. His spouse was Vandhvá, born in Devagrám.

XVII. She like Devaki bore unto him a son, the best among mankind, who resembled Krishna, the adopted son of Yasodá, who was beloved of milk-women.

Wilkins has "husband of Lakshmi." This does not occur in the text.

XVIII. Who was named Srí Gurava Misra, like another heroic Rama, though born of the family of Jamadagni, and was thoroughly anxious (for the welfare) of the Kshatriyas.

Wilkins divides the phrase "सम्यङ्नक्षत्र" into "सम्यत् नक्षत्र," and hence his rendering "was acquainted with all the constellations." The above reading is more probable as Parasu-Ráma was known to have been the deadliest enemy of the Kshatriyas, and this Misra, though as heroic as Parasu-Ráma, was not so inimical to the Kshatriyas, but on the contrary was friendly to them.

XIX. Who was skilled in discriminating the properties of things and at whose feet bowed down the Prince Sri Náráyana Pála after his victories. What other testimony is required of such a man?

XX. He appreciated the beauties of several poems and was much devoted to politics. He was greatly beloved by the people of Bengal for observance of the Vedas. He was fond of extolling the virtues of greatness. He was a renowned astronomer, and his vast understanding and boundless fame were born of Dharma.

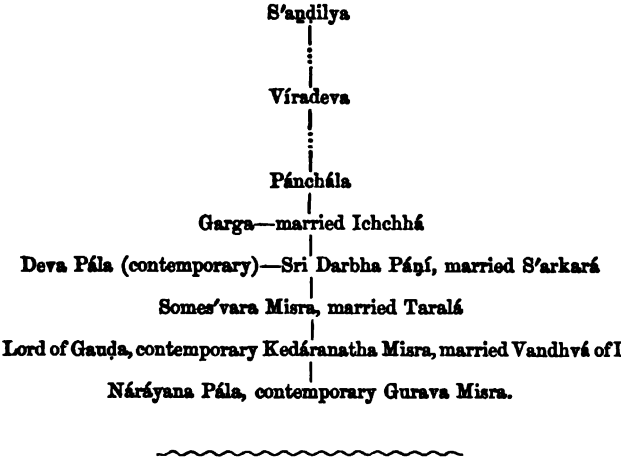
XXI. It was by his blessings and the blessings of the lord of speech (Vrhaspati) that both Lakshmi and Sarasvati, forsaking their natural enmity, lived together in amity.

Lakshmi and Sarasvati are said to be two sisters. They were both married to Vishnu. Lakshmi is the goddess of prosperity, and Sarasvati that of learning. The Sastras say these two are incompatible in the same individual, the learned paṇḍits being generally poor.

XXII. It was by the sound knowledge which he derived from constant study of the sástras that in the assemblies of the learned he foiled the pride of his opponents in discussion. He likewise on all sides drove away the enemies.

XXIII—XXVIII. The transcript here is very imperfect having many lacunæ. The passages which are legible are laudatory of the Donor Prince.

The following is the genealogical tree derived from the text. The Misras were evidently the hereditary ministers of the Pála Rájás of Bengal.



On a copper-plate Inscription of the time of Skanda Gupta.—By Ra'jendrala'la Mitra.

(With a plate.)

I am indebted to General Cunningham for a facsimile and a very carefully-made hand-copy of a copper-plate inscription, lately discovered by him at Indor, a kherá ten miles from Anupshahar on the Ganges. The plate measures seven inches and nine-tenths by five inches and eight-tenths, the edges being slightly arched. The inscription extends to twelve lines, the last three of which are more apart from each other than the others. The character of the writing is the well-known Gupta, and is in a fair state of preservation, except at the beginning of the second, third, fourth, and fifth lines and in three or four places in the middle, where rust has eaten up the surface, and made the facsimile in those parts illegible to me; but, I think, even there the outlines of the letters are not altogether lost on the copper-plate, for in General Cunningham's hand-copy, which has helped me very largely in reading the record, they have been so produced as to be easily recognisable. Only in one place, where the age of the moon is given, I have failed to read the letters.

The document opens with a stanza in praise of the sun-god, and then records the mandate of a petty zamíndár, named Devavishṇu, rendering it obligatory on the part of the guild of oil-sellers at Indrapur in the Doáb, to supply the temple of the sun, at that place, with a sufficient quantity of oil daily for the use of the temple, the supply being increased by two *palas*

which will be equal to 1120 grains, or about 2½ ounces, on every new moon day.

The donor was a Bráhmaṇa versed in the four Vedas, and owner of an estate in the Doáb of the Ganges and the Yamuná, which is indicated by its ancient name of Antarvedi. The locale of the township of Indrapura is, doubtless, the modern village of Indor, and the kherá probably contains the ruins of the old temple of the sun.

The date is by far the most important part of this record. It states in clear and unmistakable words "the year one hundred and forty-six of the thriving and invincible kingdom of Skanda Gupta," or, in other words, a Gupta era calculated in connexion with a thriving kingdom, and not from a reign. The compound word *abhivardhamána-vijaya-rájya-samvatsare* cannot consistently be interpreted in any other way. Grammatically the phrase *rájyasamvatsare* can only mean "in the year of the kingdom," and to apply it to the reign it should be split into two separate words *rájye* and *samvatsare*, but the facsimile in this part is perfectly clear, and there is no trace in it of the vowel *e*, the mark of the locative, at the end of the first word. I called the attention of General Cunningham to this part of the record, and he assured me in reply that he could find no mark on the plate to indicate the vowel in question; a rubbing of this part of the plate which he has sent me appears perfectly distinct and without any vowel-mark on the top of the word *rájya*. Without the case-mark, the phrase, if applied to the reign on the strength of the epithet *abhivardhamána*, "flourishing," being in the present tense, it would make the reign of the prince extend to a hundred and forty-six years, and I have no hesitation, therefore, in rejecting such an interpretation as absurd. The word *rájya* in this part of the inscription has the letter र्‍ज so engraved as to make it thereby appear like *rárájya*, but this is an obvious misformation of the compound consonant *jya*, due to the writer, or the engraver, of the record, and cannot be taken as in any way intended to alter the sense. The mark for *e* is in the record a hook on the top, and not a curved line behind as in modern Bengali, and one of the र्‍ज's cannot therefore be taken for a vowel-mark. It is possible, however, that a small mark, like that for *e*, may be omitted by mistake, and mistakes of the kind not being unknown in copper-plate inscriptions, it is necessary to enquire whether such a mistake has here been committed or not.

Assuming that there is no mistake in the part under notice, and seeing that the record does not give the name of the era in any technical term, but clearly describes the year to be of Skanda Gupta's kingdom, we cannot avoid the inference that the era intended is that of the sovereign named, calculated from the first year of his reign, and as distinct from those of Vikramáditya and S'akáditya. Further, that if we accept this to be the Gupta-kála of Abú Raihán, it does not begin either from the commencement of the reign of the

Gupta dynasty, or from its extinction, but from the reign of the seventh prince of that line. This would leave the first six princes out of the pale of the era, and the dates given in their inscriptions must, therefore, belong to the Samvat, the S'aka, or some other era current at their times.

Such a conclusion, however startling, would not be at first sight improbable. The record is inscribed by order of a private person, and he had perfect right in choosing the era in which he should date his grant, and as a Gupta era is known to have been current in India at one time, we may assume this to be the same. Skanda Gupta was a more renowned sovereign than S'rí Gupta, or Gupta, the founder of his house, and there is nothing improbable in his founding an era, or in the idea of that era being in currency for a hundred and forty-six years from the date of his accession to the throne of his ancestors, or of its being known as the Gupta-kála. The fact of its having got currency after the fall of six of the Gupta sovereigns would also in a loose way justify the statement of the Arabian traveller that it commenced after the fall of the Guptas.

The assumption on the strength of which all these inferences may be drawn cannot, however, be maintained. The manner in which the name of Skanda Gupta is introduced is quite inconsistent with such an idea. In all ancient and mediæval Indian inscriptions where kings are especially named to indicate their eras, the personal names appear simply, or with a single regal title, barely enough to point out their identity, and that at the end; whereas in the monument under notice we have it put prominently at the beginning with a large number of titles, and qualified with epithets in the present tense, such as would be appropriate for a reigning potentate, and exactly in the same way in which the names of kings occur in the two records of Hastin, noticed in the thirtieth volume of this Journal (pp. 6 and 10) and in the monuments of Eran.* I am therefore strongly disposed to believe that the name in the inscription now under examination has been used with the same object which was prevalent in the minds of the writers in the other records, *i. e.*, to indicate the reigning sovereign and as a mark of loyalty, and not to define the era. It would follow as a matter of course that the word *rájya* in the record should be *rájye*, *i. e.*, it is not in its crude form as forming a part of a compound term, but in the locative case.

This assumption of mine would be in perfect keeping with the Kuhá-on pillar inscription in which Skanda Gupta is described as reigning in the month of Jyeshṭha following the year 141 of an unnamed era, probably the same which in the records of king Hastin is described as included in the reign of the Guptas,† and which occurs without any specification in

* Ante VI., and XXX. p. 14.

† Ante XXX., pp. 6-10.

the Eran monuments of Budha Gupta,* and in the Udayagiri and Sanchi records of Chandra Gupta.† The argument on which I base my inference is very much the same which Mr. Fitz-Edward Hall once used in support of a similar conclusion with reference to Skanda Gupta as noticed in the Kuháon pillar. Adverting to Prinsep's translation of that monument he said: "There is then nothing here recorded concerning the death of Skanda Gupta, as Prinsep supposes. Being neither the first ruler of the Gupta dynasty, nor the last, nor of special note, it would be extraordinary indeed if time had been computed from his decease. Moreover, if he and his kingdom had so long passed away, it seems preposterous that they should be mentioned, and in so eulogistic a strain, especially as there is not, on this hypothesis, even a subordinate allusion to the reigning monarch. Indubitably Skanda was on the throne when this memorial was written. The term शान्त, which is applied to his government, has, with other meanings, those of 'serene,' 'tranquil,' 'unperturbed,' 'flourishing.' In bearing these significations in addition to that of 'discontinued' or 'extinguished,' it may be compared with निर्वाण. Whatever be the era here followed, it appears to have been too well understood at the time to call for explicit specification."‡ Two years subsequently in another essay on the subject the writer had, however, occasion to recant this opinion, and to adopt a new one, which he thus developed:

"Now, the use, in close juxtaposition to the mention of the Gupta kingdom, of so equivocal a term as शान्त, in one inscription, and of भुक्ति, in another, the later of Hastin's, was enough, as soon as observed, to arrest attention. The former word, to be sure, bears the import of 'quiescent,' 'serene,' 'tranquil,' 'unperturbed,' 'flourishing,' no less than of 'discontinued,' 'extinguished,' but the latter, if unqualified by a temporal particle, denotes possession, or fruition, only as a thing of the past. Ordinary meanings which it has—all of them metaphorical of 'eating'—are 'used,' 'worn,' 'consumed,' 'disbursed,' 'expended.' In the older of Hastin's grants the phrase is भुक्ति which, like भोग, may signify, 'tenure,' 'incumbency;' other customary senses of it being, at the same time, 'dissipation,' 'waste,' 'destruction.' In order to substantiate the counter-position to that which I take touching the acceptation of शान्त, भुक्ति and भुक्त as chronologically bearing, in the phraseology of inscriptions, on the state of an empire, it must be made out that, in other writings of the same nature, these words imply duration to the period particularized.

"The partiality of the Hindus to euphemism is notorious; and it is therefore not surprising that where, as in the Kahaun inscription, reference

* Ibid, p. 18.
† Ante V., p. X.
‡ Journal, American Oriental Society, VI., p. 530.

is made to an era determined by the annihilation of a series of powerful princes that diction which is least dyslogistic should be studiously selected. Congruously with such avoidance of an invidious term as has been indicated, it is likewise not at all singular that a direct encomium should be bestowed on a potentate who, however truculently he may once have lorded it, having been dust and ashes nearly a century and a half, could be favourably commemorated without antagonism to the impulses of family pride and without hazard of irritating popular prejudice. Pending the emergence, as established historical entities, of dynastic successors to Skanda, it will, then, be perfectly safe to look upon him as the last of the Guptas. Even should it transpire that he was survived by descendants who were not entirely disendowed of power, yet in him, so far as we are informed, the lustre of his lineage underwent definitive and irremediable eclipse. On collation of the wording of Hastin's grants with that of the Kahaun pillar, we thus discover no trifling corroboration of the statement derived from the Arabian traveller: and his language, in passing, will endure no alternative construction."*

The immediate cause of this change of opinion was the discovery of a passage in Abú Raihán al-Birúní's work which, as quoted in Thomas' Prinsep's Indian Antiquities, runs thus:

و اما كوبتكال فكان كما قيل قوما شرارا اقويا فلما انقرضوا ارخ بهم وكان بلب كان اخيرهم فان اول تاريخهم ايضا متاخر عن شككال ٤٣١

Reinaud has thus rendered it into French: "Quant au Gupta-kála (ère des Gouptas), on entend, par le mot Goupta, des gens qui, dit-on, étaient méchants et puissants; et l'ère qui porte leur nom est l'époque de leur extermination."† Had the text of which this passage is a rendering been unquestionably correct, the necessity for a reconsideration of the case would have certainly arisen; but M. Reinaud was particular in affixing to his translation this remark: "Déjà je me suis excusé sur l'imperfection de ce qui est dit ici, et j'ai averti que les résultats que je présente offraient quelque incertitude, vu les nombres qui excèdent celui de cent." In 1854, several years before Mr. Hall penned his first essay, General Cunningham had also shown that the original Arabic text was obscure, and that the words فلما انقرضوا ارخ بهم would be better and more correctly rendered by "and then became extinct along with their epoch" than by "et l'ère qui porte leur nom est l'epoque de leur extermination,"‡ and the attempt to make the inscriptions confirm the authority of the Arabian

* Ante XXX., p. 3.

† Fragments Arabes et Persans inedits relatifs à l'Inde, pp. 138-143. Apud Thomas' Prinsep's Antiquities, I, p. 269.

‡ Bhilsa Topes, p. 139.

traveller was therefore thrown away. I have lately had the Arabic passage examined by Mr. Blochmann, than whom few can speak more authoritatively on the subject, and he has favoured me with the following note on the subject, and this I think may be accepted as quite decisive on the subject as to the weight to be attached to the remark of Abú Raihán in the form in which we now have it. He says,

"The whole passage is as corrupt as can be, and the word about which you are most doubtful contains in Cunningham's lines a misprint. The misprint is ارج, which should be ارخ *urrikha;* in the first line we have to read شرارا for.الشرارا Besides, Cunningham has 'Ballabh-Kál,' instead of 'Ballabh kána,' 'Ballabh was.' The passage thus far corrected is—

فاما كوبتكال فكان كما قيل قوما شرارا اقويا فلما انقرضوا أرخ بهم و كأن بلب كان

اخيرهم اول تاريخهم ايضا متاخرعن شككال ۲۴۱

but still, the Arabic and the sentence itself are bad. Abú Raihán cannot thus have written it.

Translation.

"As regards the Guptakál, they were, as is related, a people wicked and powerful; and when they were cut off, it was dated in them (the era commenced ?), and apparently Ballab was the last of them (or after them). The beginning of their era likewise comes after the Shakakál 241.

"As it is, I can see no fault in Reinaud's translation. I wonder what Dr. Sachau of Vienna has found in the MSS. which he has just now been collating."

To argue upon such a passage and to torture other documents to conform to it is by no means commendable. Had it been otherwise, still the argument that a love of euphemism, or a desire to avoid "the hazard of popular prejudice" had led to the use of *s'ánta* and *bhukta* in the inscriptions would appear futile at best. Instead of its not being "singular," it would be in the last degree singular "that a direct encomium should be bestowed on a potentate" who, "however truculently he may have once lorded it, had become dust and ashes for nearly a century and a half." As "to impulses of family pride" the family being extinct for so long a time, there was none to be guided by such impulses, and it would no doubt be a most extraordinary phenomenon in political history, if popular prejudice could be irritated by calling a king, however great or popular he might have been when living, dead a hundred and forty-one years after the extermination of his dynasty. To use Mr. Hall's language, "the idea would be preposterous."

The Arabic authority, however, apart, I am clearly of opinion that the translations hitherto published of the first stanza of the Kuháon pillar

inscription is wrong, and no argument therefore can be based on those erroneous renderings. Prinsep's pandit misled him by putting in the Nágari transcript a visarga after *s'ánte*, whereby it was converted into the genitive singular of the noun *s'ánti*, 'peace' or 'extinction,' and it was accordingly interpreted as qualifying the noun Skanda Gupta, which was also in the genitive case. The visarga, however, does not occur in the facsimile published by Prinsep, and therefore it should be at once rejected. Had it existed in the original, it should still have been rejected, for *s'ánti* is itself a noun, and cannot possibly be used as an adjective for another noun. Mr. Hall was the first to notice this mistake, and he correctly pointed out that the word as used in the text was in "the seventh case of a past participle."* The late Dr. Bhau Dájí did the same a few years after, the former rendering it by "being quiescent," the latter "peaceful."† Both were, however, mistaken in accepting the word as qualifying the term *rájye*, as also in the meanings they assigned to it. Mr. Hall subsequently rejected his first version, and accepted the word to mean "being extinct," but he still insisted on applying it to *rájye*, and the result therefore continued as unsatisfactory as before. The word stands just before *varshe*, and by the ordinary rule of Sanskrit construction it should be interpreted along with that which is proximate to it, and not taken over to *rájye*, which is removed from it by the intervention of several other words in a different case. Doubtless the exigencies of metre often lead to the reversion of the natural order or connexion of words in a sentence, but where both a distant and a near connexion are possible, the most appropriate course is to adopt that which is most natural, unless the context shows this to be inadmissible. This is the course which Sanskrit exegesists usually follow, and I see no reason to depart from it in explaining the stanza under notice. In it the words *s'ánte*, *varshe*, *trins'addas'aikottara-s'atatame*, *jaishthyamási* and *prapanne* stand in regular succession, and I have no hesitation in taking them to be intimately connected in sense. The meaning they together yield is "the year one hundred and forty-one having been over, and the month of Jaishṭhya having arrived," or "on the close of the year one hundred and forty-one, the month of Jaishṭhya having arrived," and this instead of being opposed to the context offers a much more natural and consistent sense than the version given by Mr. Hall.

To Europeans it might appear strange that the passed year should be named in the record, and not the current one to which the month specified belonged. But there is no inconsistency in this. In Bengal the usual practice to this day is to write in horoscopes the past year, and not the current one: thus were a child to be born at this moment (ten

* Journal, American Oriental Society, VI., p. 530.

† Journal, Bombay As. Soc., VIII., p. 241.

minutes past eleven A. M. of the 3rd of February, 1875, assuming that the Christian era is used and the day begins with sunrise at 6 A. M.), his date would be given in these figures: 1874, 1, 2, 5, 9, 59, *i. e.* born on the lapse of fifty-nine seconds, nine minutes, five hours, two days, one month, and one thousand eight hundred and seventy-four years of the Christian era. Logically, this is the most precise way of putting the figures, and to leave no room for doubt, the figures are usually preceded by the words *s'aka nripateratitábdádayah*, "the S'aka king's past year, &c." That this principle has been adopted in the inscription is evident from the use of the two participles *s'ánte* and *prapanne* together. The word *rájye* in the inscription is in the locative case, showing the locale of the occurrence, whereas *s'ánte* and *prapanne* are in the locative case-absolute according to the rule of Páṇini which says "that which through its own verb governs another takes the locative case." For determining the tense of such cases-absolute, the great logician Gadádhara lays down the following rule in his *Dvitiyádi-vyutpatti-vádah*: "The relation of a verb in the seventh declension with another implies the same or some other time: Thereof the present participle affix (*krit*) implies the same time [*i. e.* the action of the two verbs takes place simultaneously). Where the participle affix is of the past tense, the time of the second verb is subsequent to that of the first; thus: on your going to the earth to conquer it, he attacked this city, &c. In the case of future participles the time of the first verb succeeds that of the other."* Applying this rule to the two participles of the stanza under notice, we have *s'ánte* preceding *prapanne*, and the "extinction" or close of the "year" (*varshe*) must take place before the "arrival" (*prapanne*) "of the month of Jaishṭhya." If we take *s'ánte* to refer to *rájye* the meaning would be "the kingdom having become extinct and the month of Jaishṭhya arriving," leaving the *varshe* grammatically unconnected with the rest, or serving as a locative, which is absurd.

As the verse in question has proved a stumbling-block to many, and is of great importance in connexion with the history of the Guptas, I shall here reproduce Mr. Hall's reading and translation modified according to the above remarks.

यस्योपस्थानभूमिर्नृपतिशतशिरः पातवातावधूता
गुप्तानां वंशजस्य प्रविचलतयशस्तस्य सर्वोर्ध्वमर्दे।
राज्ये भ्रष्टोपमस्य क्षितिपशतपतेः स्कन्दगुप्तस्य शान्ते
वर्षे चिंशद्यमैकोत्तरकशततमे ज्येष्ठमासि प्रपन्ने॥

* सप्तम्याश्च समानकालीनत्वादिकं क्रियान्तरसम्बन्धः त एव वर्त्तमानार्थशतृप्रत्ययघटितं समानकालीनत्वं सम्बन्धतया। अतीतार्थकक्तप्रत्ययसमभिव्याहारस्थले उत्तरकालीनत्व यथा त्वयि भीमं गते जेतुमरीन्सीत् सपुरीमिभासित्यादौ। भविष्यदर्थकक्तप्रत्ययसमभिव्याहारस्थले च पूर्वकालीनत्वं यथा दोग्धव्यासु गत इत्यादौ इत्यादिकं स्वयमूहनीयं॥

" In the empire of Skanda Gupta,—the floor of whose audience chamber is swept by gusts from the bowing of heads of kings by hundreds; who is sprung from the line of the Guptas; of wide extended fame; opulent beyond all *others;* comparable with S'akra; lord of hundreds of monarchs;—the year one hundred and forty-one having passed away, and the month of Jaishṭhya arriving," &c.

It might be said that as the words *bhukti* and *bhukta* in the two inscriptions of King Hastin* are connected with the word *rájya*, the same should be inferred in the case of the Kuháon record. But the circumstances under which the words occur are not the same, nor even similar. In the Kuháon monument the *s'ánte* stands as a participle distinct by itself, whereas in the Hastin records *bhukti* and *bhukta* are members of compound terms of which *rájya* forms only a subordinate member; and as participle adjectives they further qualify the word *samvatsara* the counterpart of the Kuháon *varsha* and not *rájya*, and therefore they rather support my inference than oppose it. *Gupta-nripa-rájya-bhuktau* and *Gupta-nripa-rájya-bhukte* simply mean " during the dominancy of the Gupta kings;" for according to the usually received interpretation *bhoga*, when referring to years, implies its currency. Hastin evidently was a vassal of the Guptas and he satisfied himself with the title of Mahárájá, whereas the Guptas always claimed to be Mahárájádhirája, and therefore there is no inconsistency in his avowing the supremacy. Mr. Fergusson may take exception to this, as in his scheme of Indian chronology he accepts the title Mahárájá to be synonymous with emperor, and those who bore it to have been independent sovereigns; but with scores of Mahárájás who bow to the supremacy of our gracious sovereign Queen Victoria, and many of whom are not better than mere zamíndárs, none who is familiar with the history of India and of the ultra regal titles of the innumerable potentates who owned allegiance to the Pándus, will be disposed to follow his lead.

Accepting the above arguments as correct, it is impossible to avoid the conclusion that Skanda Gupta was a reigning sovereign when the Kuháon monument was put up, *i. e.*, in the month of Jaishṭhya following the year 141, or the second month of 142; and as he could not under any human probability extend his reign to one hundred and forty-six years, the conclusion becomes inevitable that the year of his reign refers to some, at the time, well-known era which needed no special specification. To say that the eras of the Kuháon and the Indor monuments are different, and that consequently the one hundred and forty-one years of the former was calculated from a

* Ante XXX, pp. 6 and 10. General Cunningham informs me that he has another inscription of king Hastin, and one of his son, in which the word *bhukti* occurs under identically the same circumstances, but I have not yet seen them.

different starting point to that of the latter, would be a mere assertion quite unsupported by proof, and opposed to every legitimate argument.

According to Abú Raihán the *Gupta-kála* reckons from the year 241 of the S'aka era = A. C. 319, and if this could be accepted as correct, and we could assume that the era of the inscription under notice was the Gupta-kála, its date would be A. C. 465; but as Abú Raihán's statement as preserved for us is hopelessly corrupt, and there is not a scintilla of proof to show that the Guptas used the so-called Gupta era, this assumption cannot be taken for granted. I am not disposed to reject altogether the statement of Abú Raihán, for however corrupt the passage, the fact of the Gupta and the Ballabhi eras being the same may be correct. Seeing that the Gupta era was current only over a small area in the Western Presidency, and that during the supremacy of the Ballabhi kings, the idea strikes me that the Ballabhi kings, having expelled the Guptas from Gujarát, started an era to commemorate the event, just as S'akáditya had done two hundred and forty-one years before them after expelling the S'akas from northern India, and the era was optionally called Ballabhi or Gupta. And as Abú Raihán gathered his information in Western India, he was right in saying that the era dated from the extinction of the Guptas, meaning their expulsion from Gujarát, without implying their total annihilation. This theory affords a very plausible solution of the question; but I must leave it aside for further research; the more so as two such distinguished Indian archæologists as General Cunningham and Mr. Thomas are engaged in discussion on the subject, and it is quite unnecessary for me to join issue with either of the disputants. I need here only observe that my own conviction is that the era of the Chandra Gupta inscriptions of Sánchí, of the Skanda Gupta inscriptions of Júnágaṛh, Kuháon, and Indor, of the Budha Gupta inscription of Eran, and of the Hastin inscriptions, are all dated in the S'aka era which being current and well known, needed no special specification, and is accordingly indicated by the word *Samvatsara*, which means "a year" and not an era, as it has been erroneously supposed by some. The aptote noun *samvat* also originally meant a year, but it has been so uniformly used in connexion with the era of Vikramáditya, that the secondary meaning must now be accepted as the right one. When the abbreviation ॐ occurs in an inscription, it may mean the *samvat* or *Samvatsara*, and therefore it would be unsafe to take it for samvat for certain. There are many unquestionable instances in which it has been used for other than the Samvat. Under this conviction I accept the record under notice to be sixteen hundred and fifty years old, or, in other words, to date from 224 of the Christian era, and that Skanda Gupta was then a reigning sovereign, whose sway extended from Gujarát to Anupshahar on the Ganges.

Transcript.

१ सिद्धम्। यं विप्रा विधिवत्प्रबुद्धमनसो ध्यानैकताना स्तुवः यस्यान्तं विदुरासुरा न
विविदुर्द्यौर्ध्वं(र्ध्वं) न तिर्य-
२ क्पतिः। यं लोको भयरोगवेगनिवहः संचिन्त्य चेतो भृशं पायाद्वः सजगत्पिता(धा) न-
पुढभिद्यया-
३ करो भास्करः॥ परमभट्टारक-महाराजाधिराज-श्रीस्कन्दगुप्तस्याभिवर्द्धमान-विजय-
राज्यसंवत्सरशते षट् चत्वा-
४ (रिं)शदुत्तरतमे फाल्गुनमासे ****परिगृहीतस्य विषयपतिश्चर्मनागस्यान्तर्वेद्यामो-
गाभिरुदये वर्त्त-
५ माने बलाधिकरणस्था चातुर्वेद्यसब्रह्मण्यब्राह्मणदेवविष्णुर्देवपुत्रो पारिन्दानपौत्रः डडिक-
प्रपौत्रः सततामिहो-
६ त्रब्रह्मदे मोराक्षयष्टयो वर्षनक्षत्रगोत्र इन्द्रापुरकवास्तव्यां चचियाचरणवर्म-भट्टकुप्तसिद्धा-
भ्यामधिष्ठा-
७ नस्य प्राच्यं(च्यां) दिशीन्द्रपुराधिष्ठानमर्डास्थानस्थानमेव प्रतिष्ठापितकभगवते सविते
दीपोपयोज्यमाद्यग्रो-
८ गिरदये पुण्यं प्रयच्छति। इन्द्रपुरनिवासिन्याश्चैलिकश्रेष्ठा जीवन्तप्रवराया इत्येतोधि-
ष्ठानादुपक्रम-
९ ण-सम्यवेक्षणया स्थिरायाः तुलाधिकं प्रवपतेर्द्विजपुत्र दत्तमनया तु श्रेष्ठा यद्-
अग्रयोगः-
१० प्रत्यमासे वच्छिन्नसंख्यं देयं तैलस्य तुलेन पलद्वयं तु चन्द्रार्कसमकालीयं
११ यो अत्रमेदायमिमं निबद्धम् गोघ्नो गुरुघ्नो द्विजघातकः सः। तैः पातकैः
१२ पञ्चभिरन्वितोघो म्य(ग)च्छेन्नरः सोप(प्य)तिपातकैश्चेति॥

Translation.

Amen! May he, whom Bráhmans, in obedience to law, bepraise with the harmony of meditation and the entire devotion of their minds;—may he, whose end and whose motions upwards and sideways neither the gods nor Asuras can divine;—may he, whom men overpowered by disease and despondency seek with the utmost earnestness,—may that fountain and Creator of light (Bháskara) who pierces the darksome envelope of the earth, be to your protection!

In the year one hundred and forty-six, in the month of Phálguna the—(?) of the thriving and invincible kingdom of his most noble majesty, the supreme sovereign of great kings, the auspicious Skanda Gupta, for the promotion of prosperity in the possession of the owner Sarvanága in Antarvedi, (or the Doáb of the Ganges and Yamuná) * * * * * versed in the four Vedas, the highly respected Bráhmana Devavishnu, son of Deva, grandson of Párindána, and great grandson of Dodika, constant in the adoration of Fire, of the family (anvaya) of Gorá and the clan (gotra) of Varshagana, within the precincts of Indrapura, provides for the promotion

of the fame of his mother, the wherewithall for the maintenance of a lamp for the (image of the) lord Savitá (the sun), which is established to the east of the hermitage of the two Kshatriya saints Achalavarma and Bhumikaṇṭha and adjoining Indrapura and Mardasyána. It should be the duty of the guild of oilmen inhabiting Indrapura to maintain this grant, and, by supplying the oil to the Bráhmans of the temple, to make the merit of this gift reflect on them.

On every new moon they should give two palas of oil in addition to the daily allowance, and this (should be done) as long as the sun and the moon shall last. He will be a vile murderer of cattle, of spiritual instructors, and of Bráhmans, who will venture to set aside this ordinance; enveloped by the five heinous sins and all minor sins such a wretch will drop to the nether regions. Finished.

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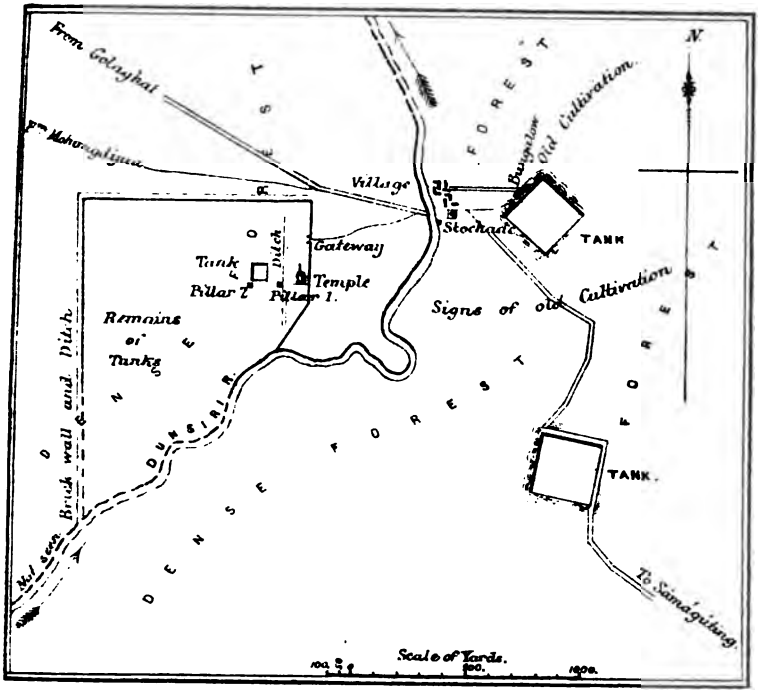
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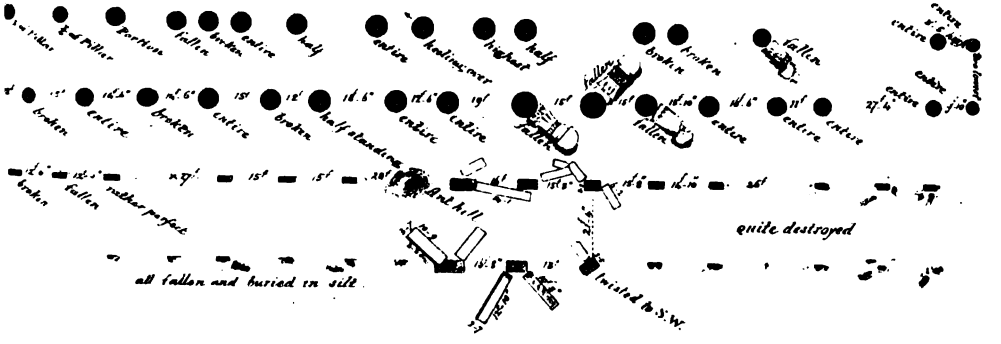
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on the Dunsiri River, ASSAM.



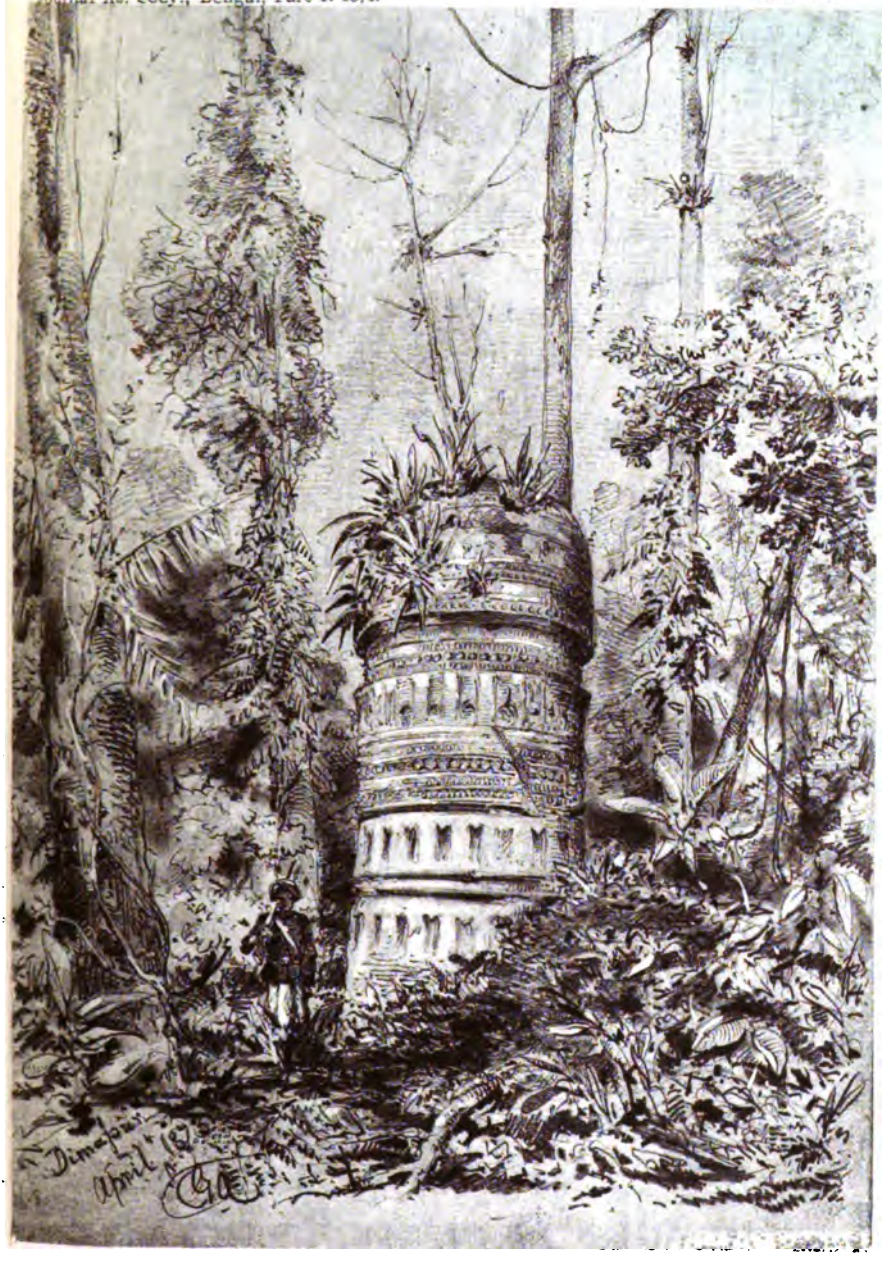
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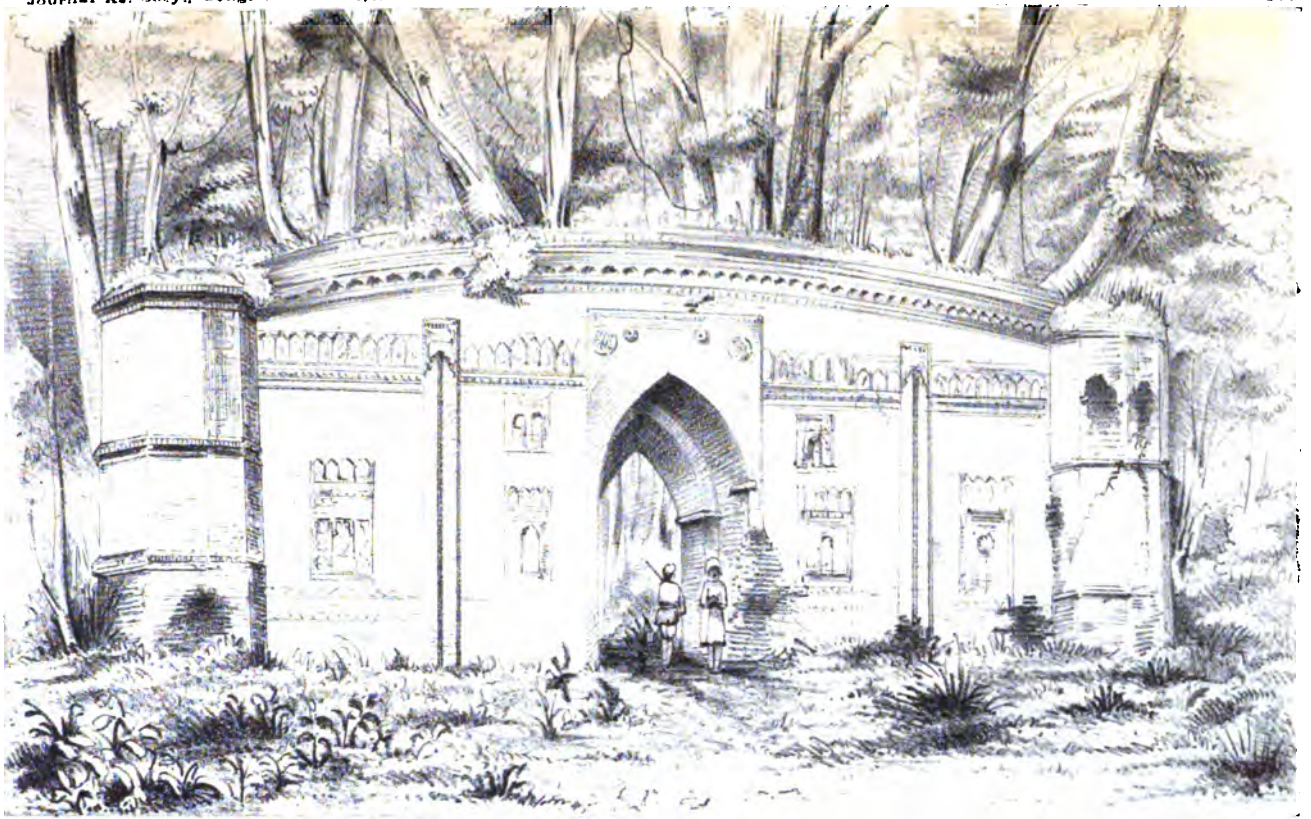
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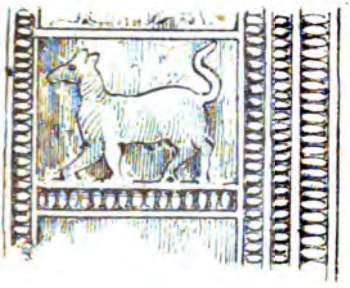
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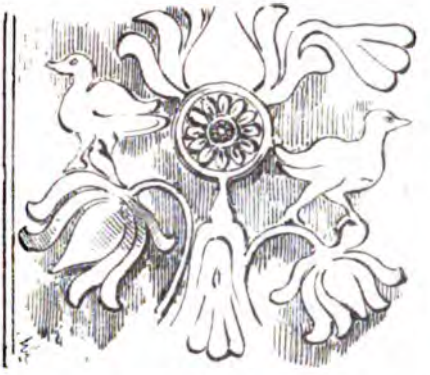
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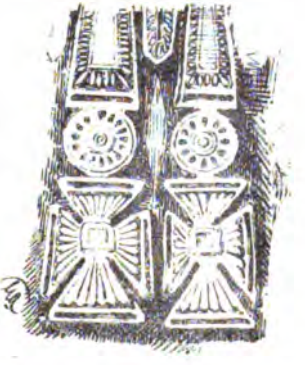










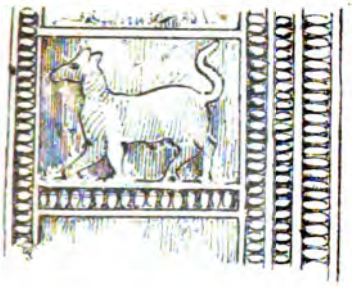


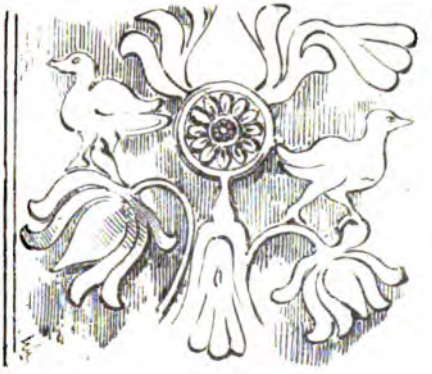
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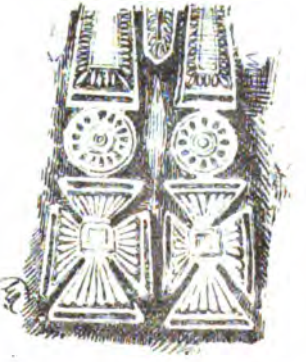




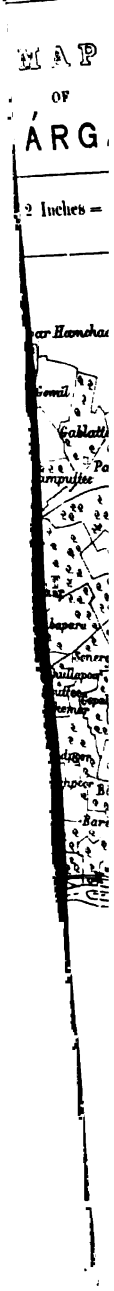








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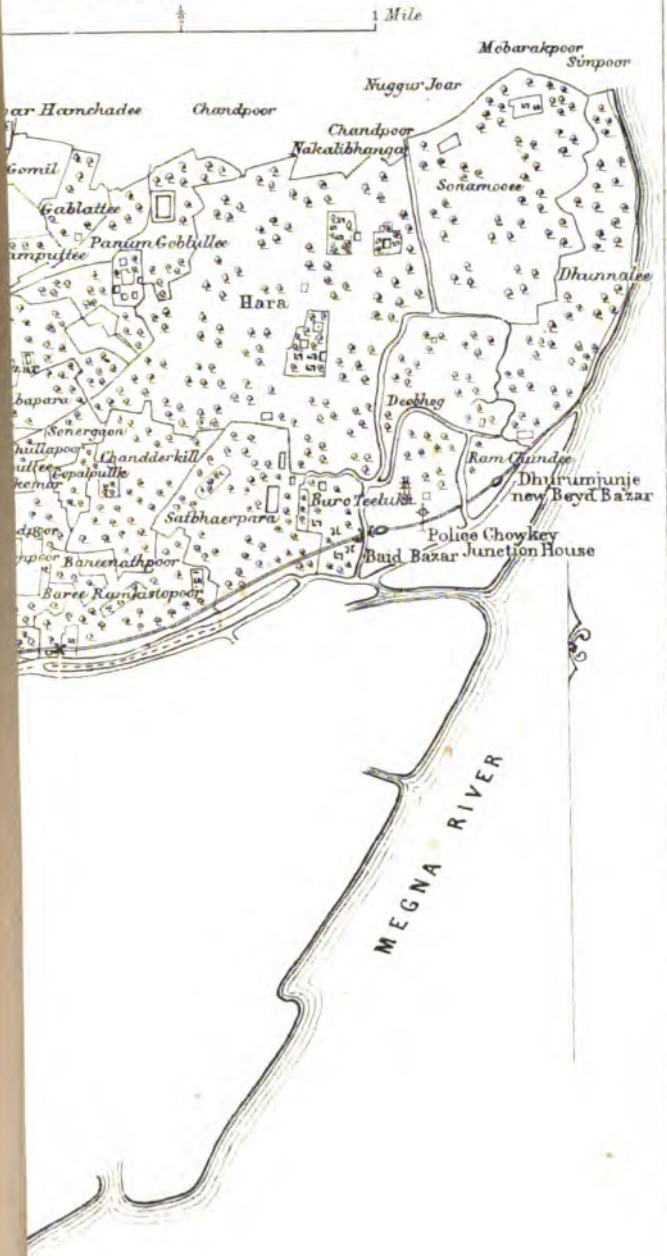

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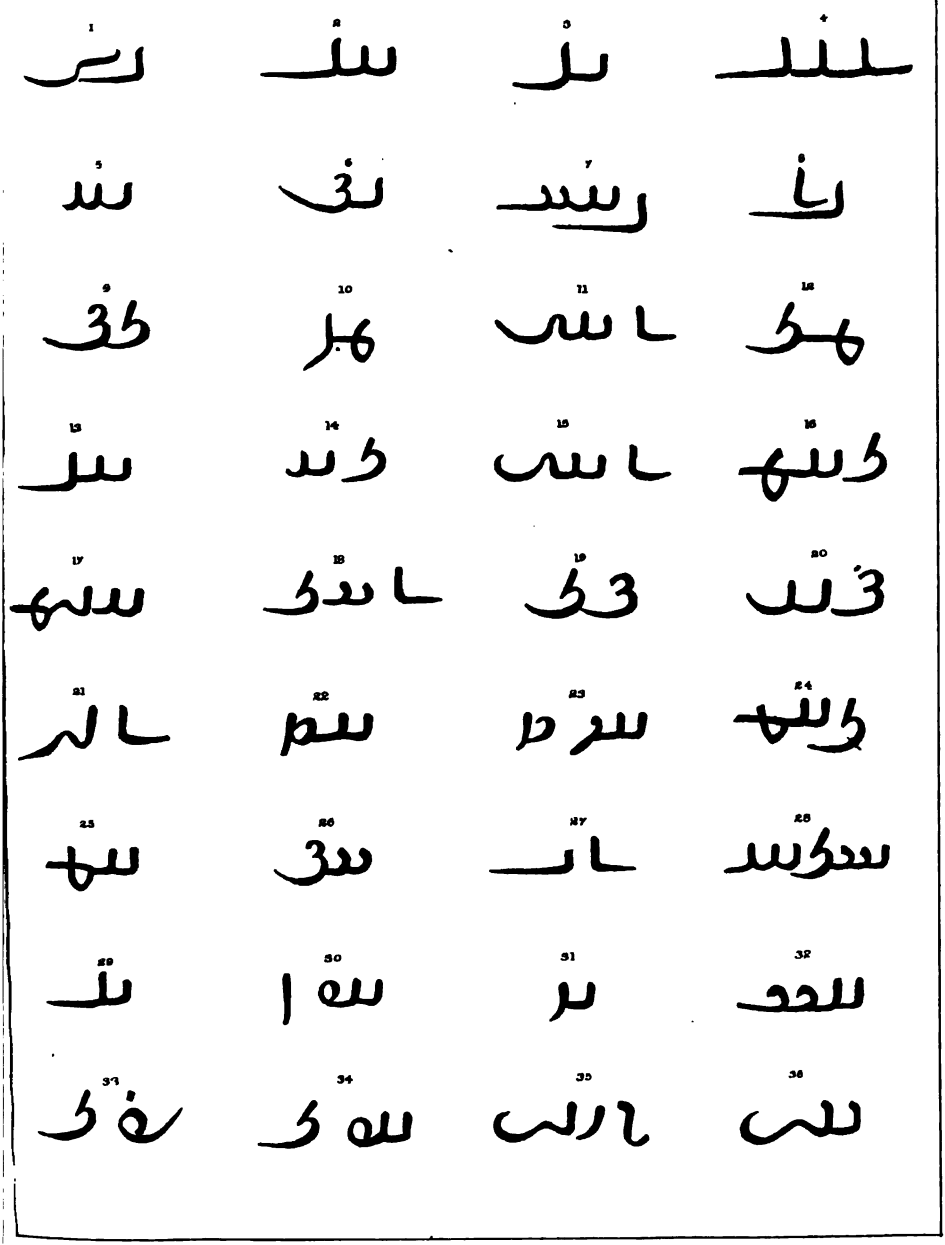
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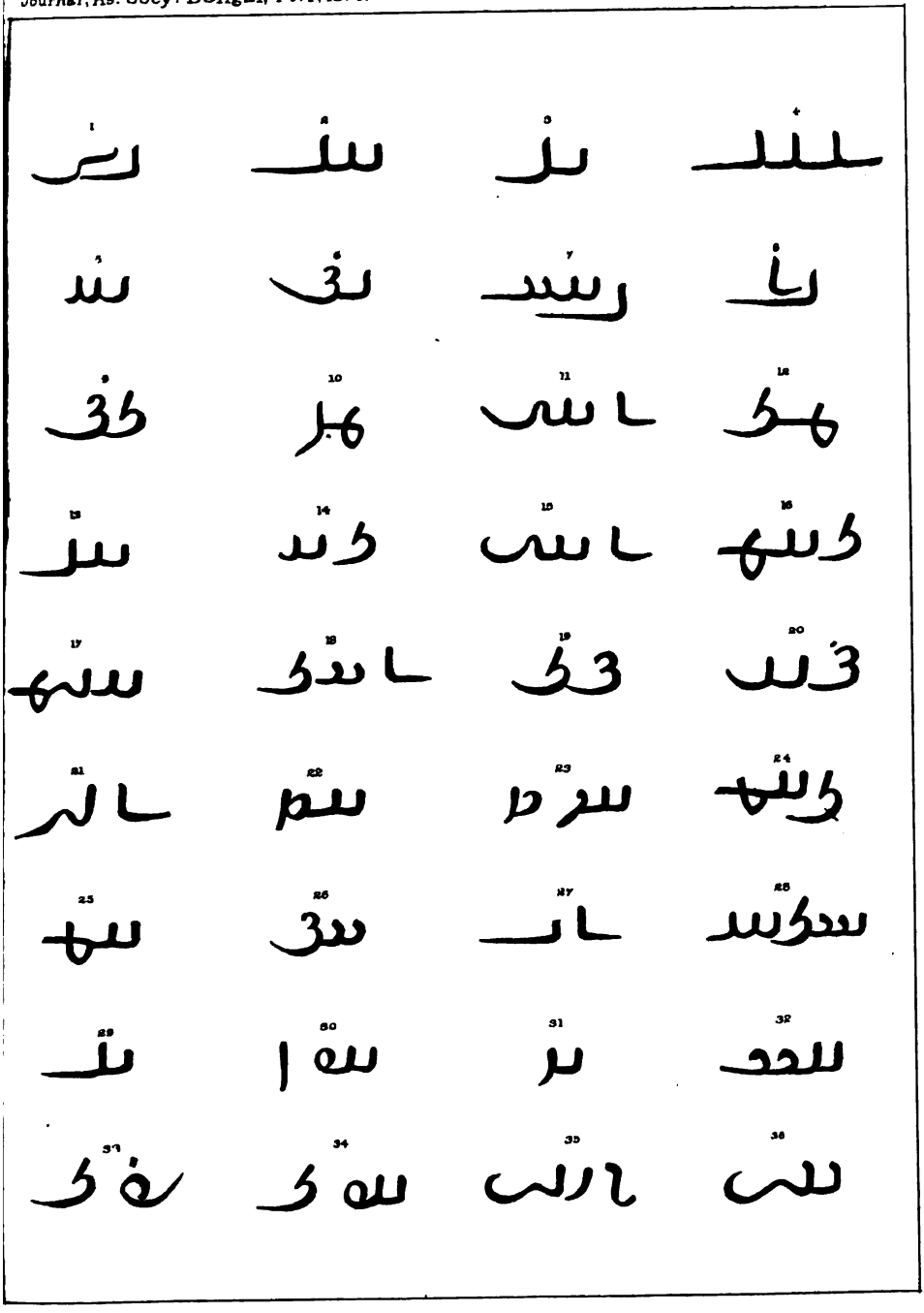
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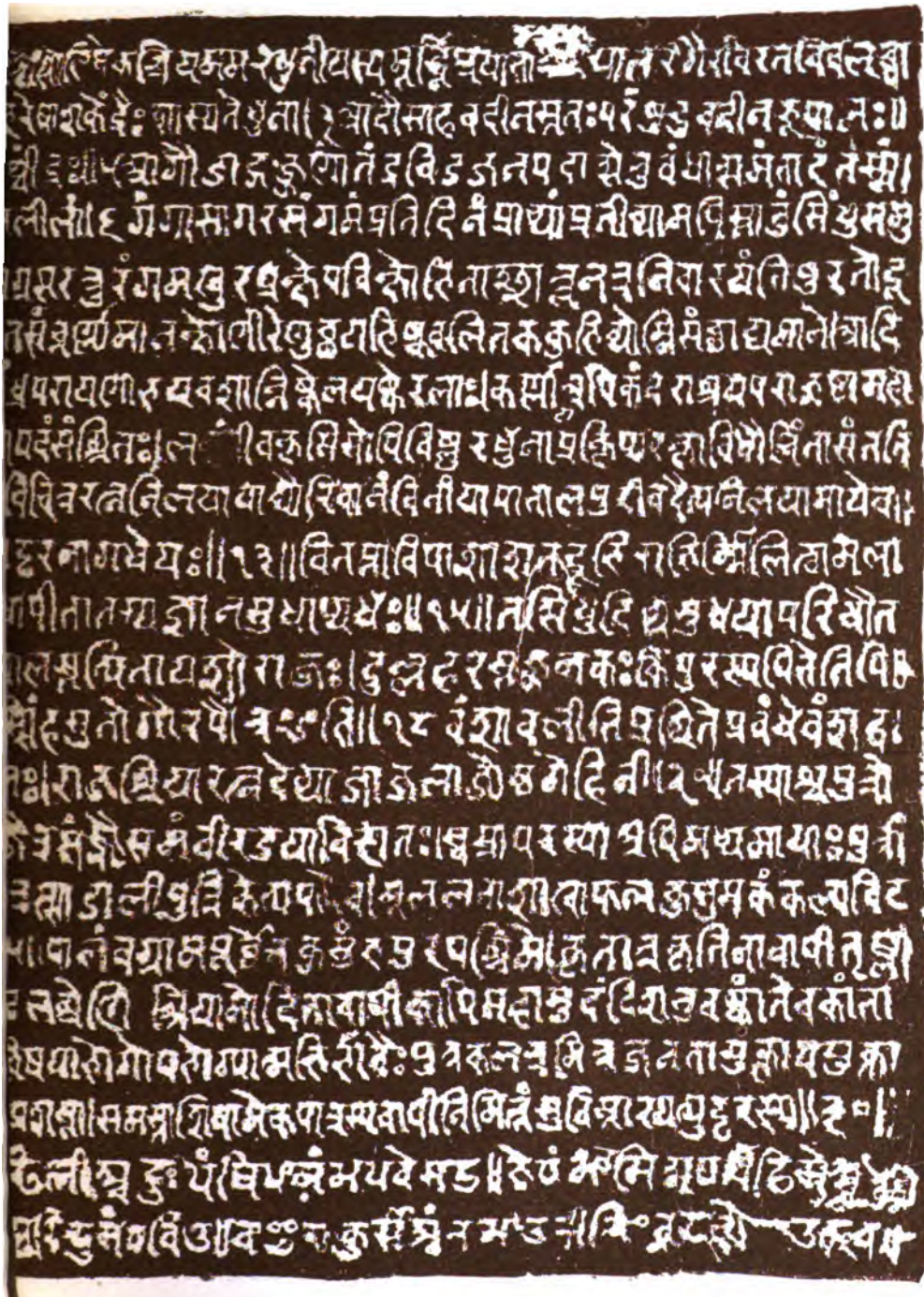




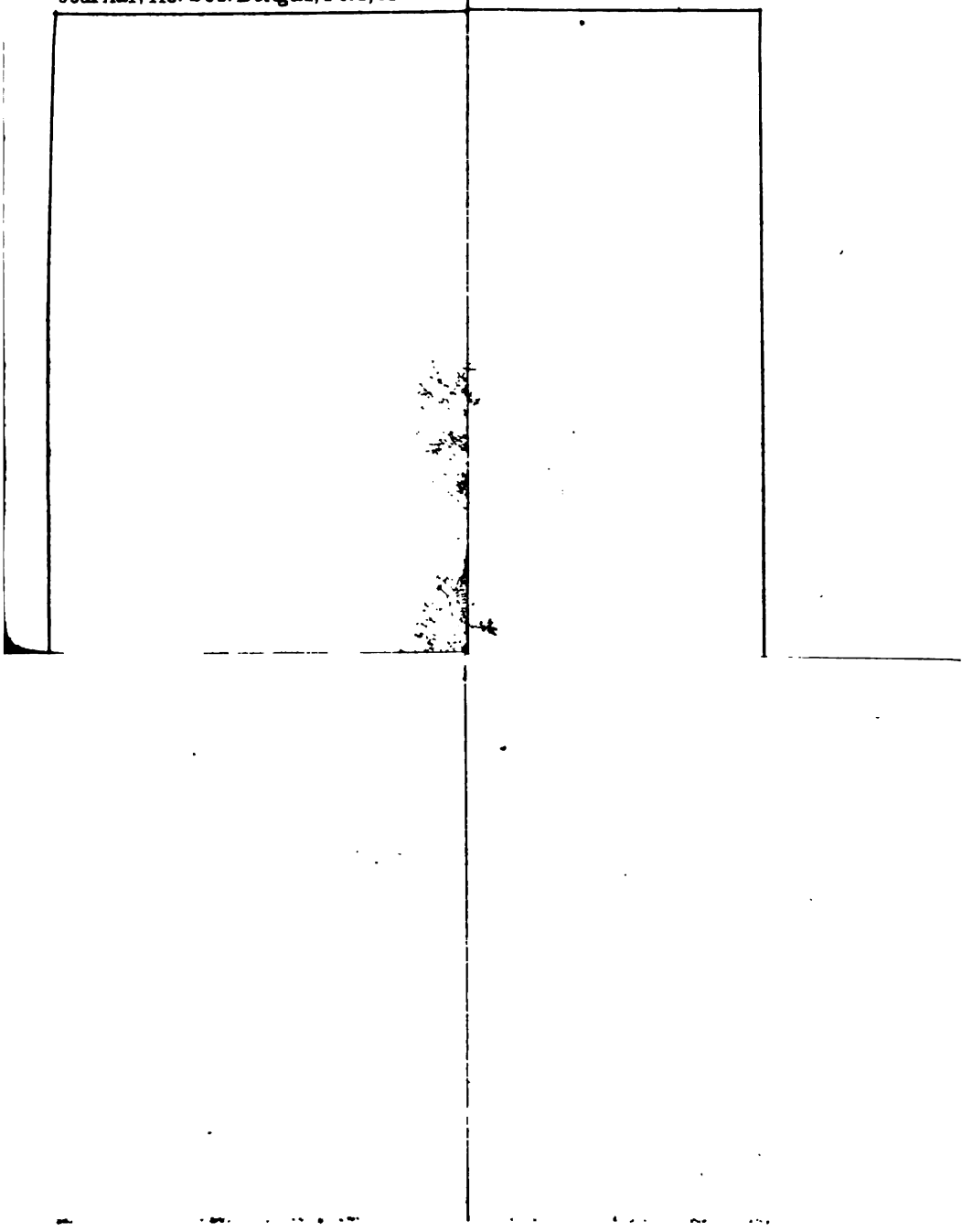
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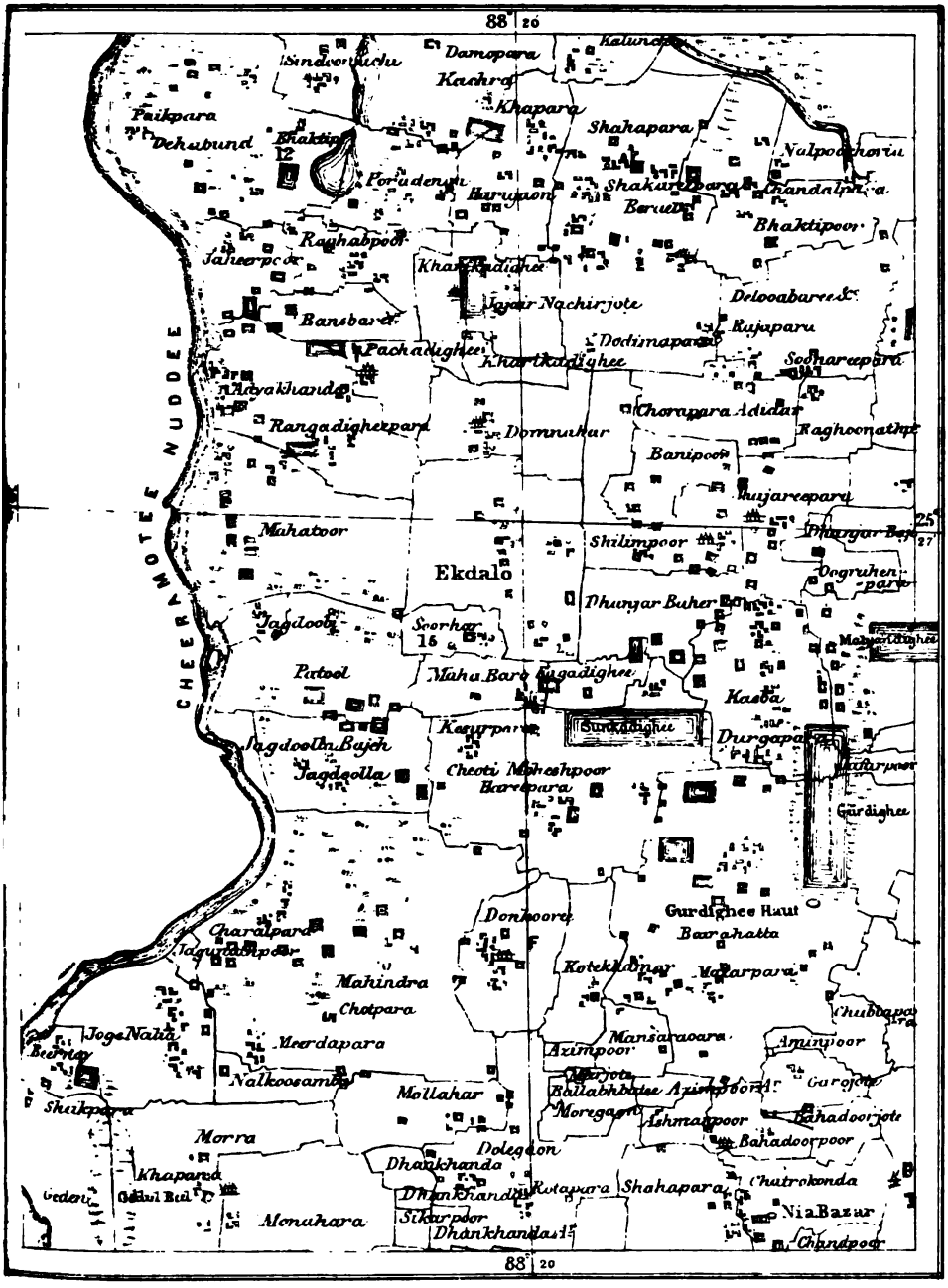


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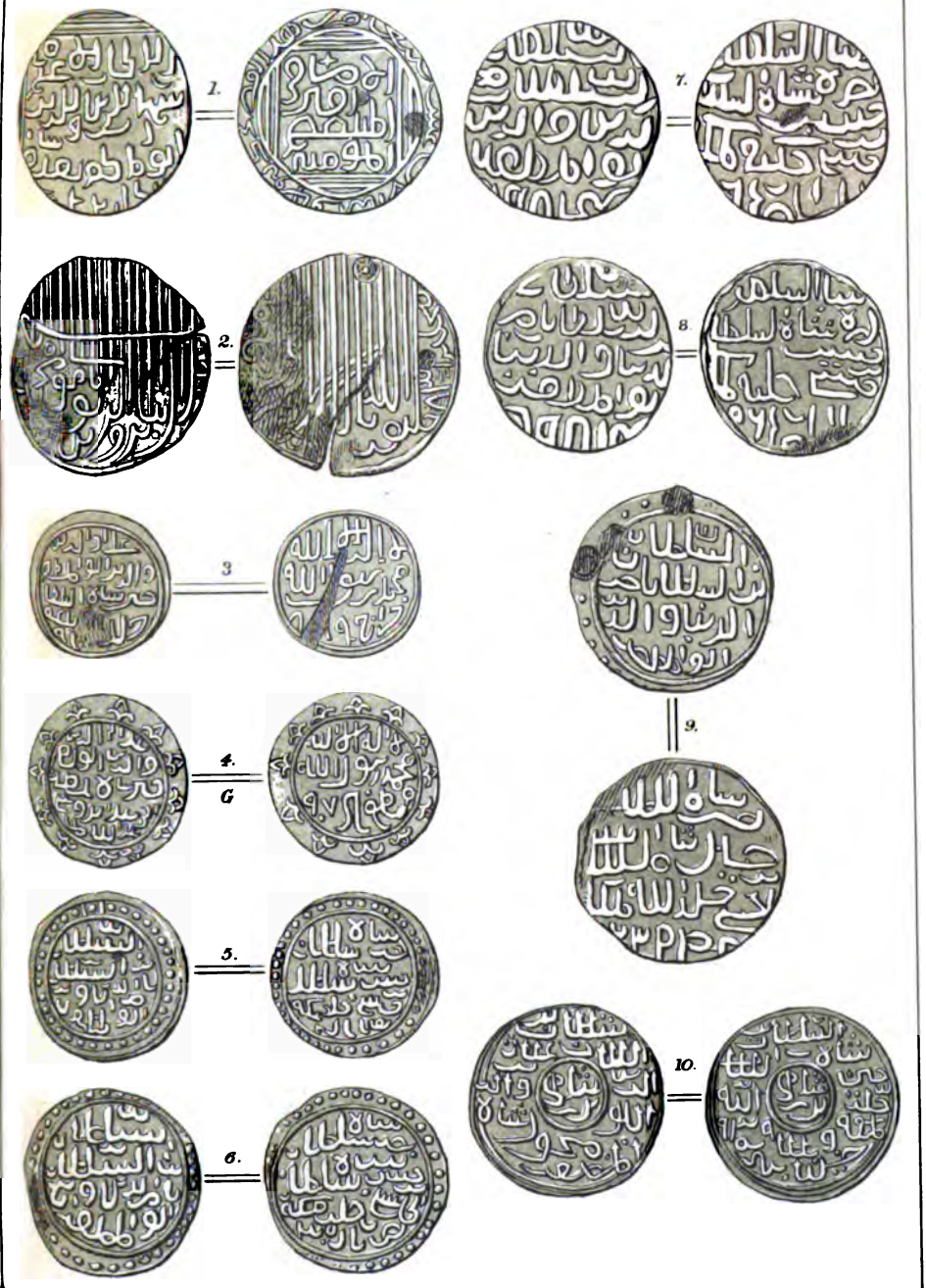


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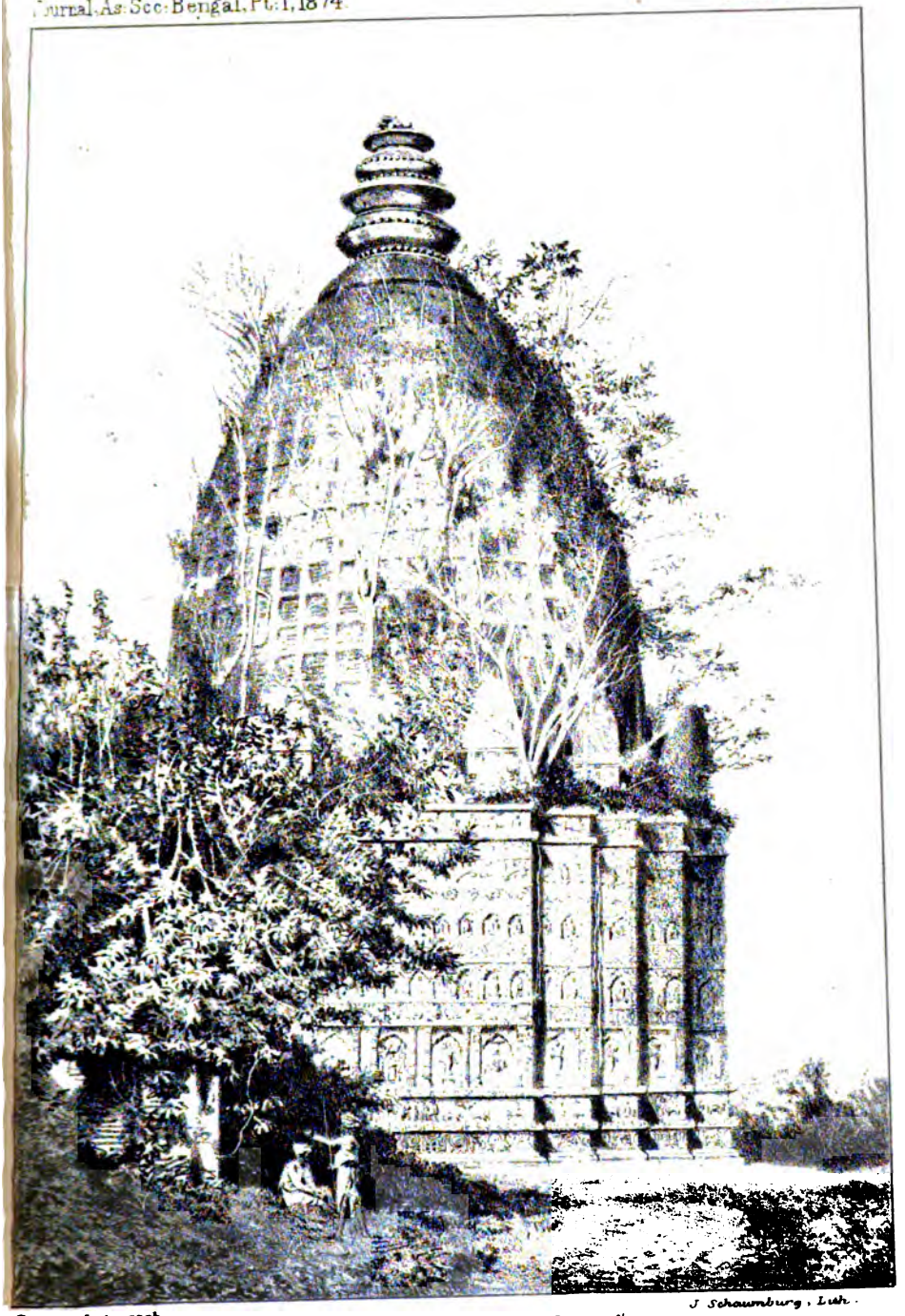


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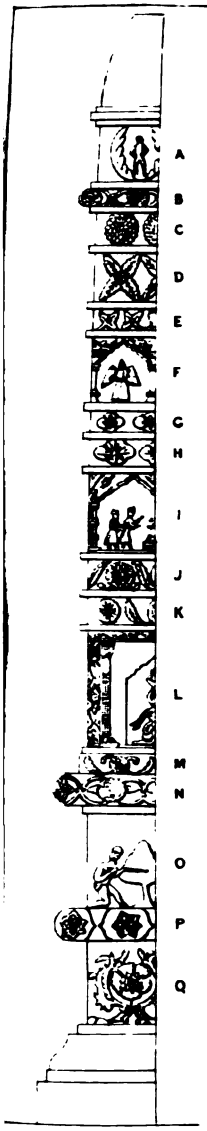
Unpublished Coins of the Muhammadan Kings of Bengal.



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From a photograph.

Rudra Singh's Temple, Jayságar, Upper Ásam.



1/12th Real size



Head of lion







In string course



One of series L.



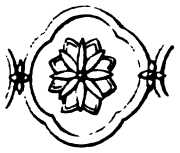
Series L. S.E. angle mutilated



Series L. N. face

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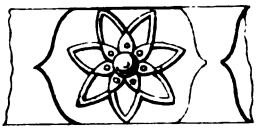
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Course H. very deeply cut.



One of Angles in L



Rounded moulding at P.



Course J. Deeply cut.



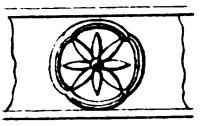
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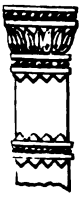
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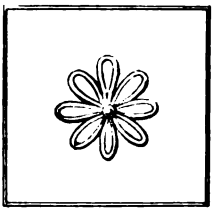
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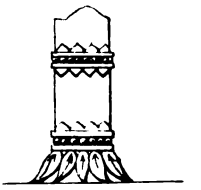
Course G.



Capital of Column in L.



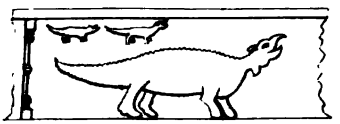
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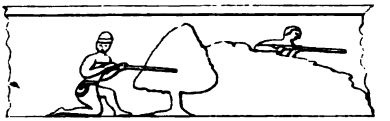


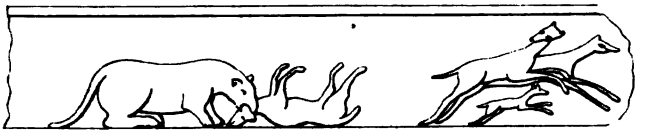
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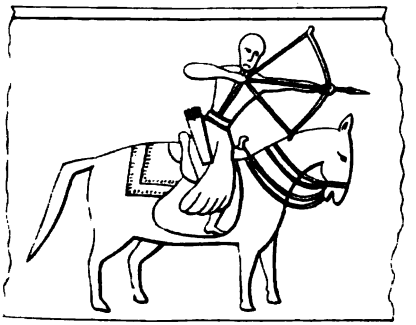
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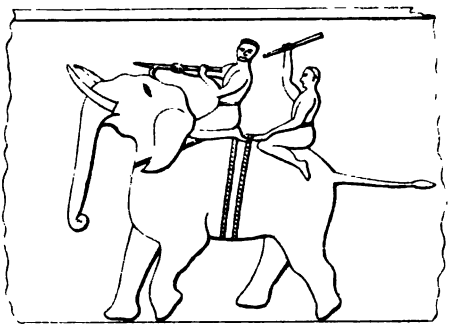
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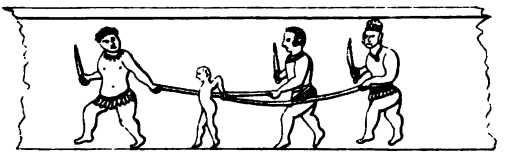
















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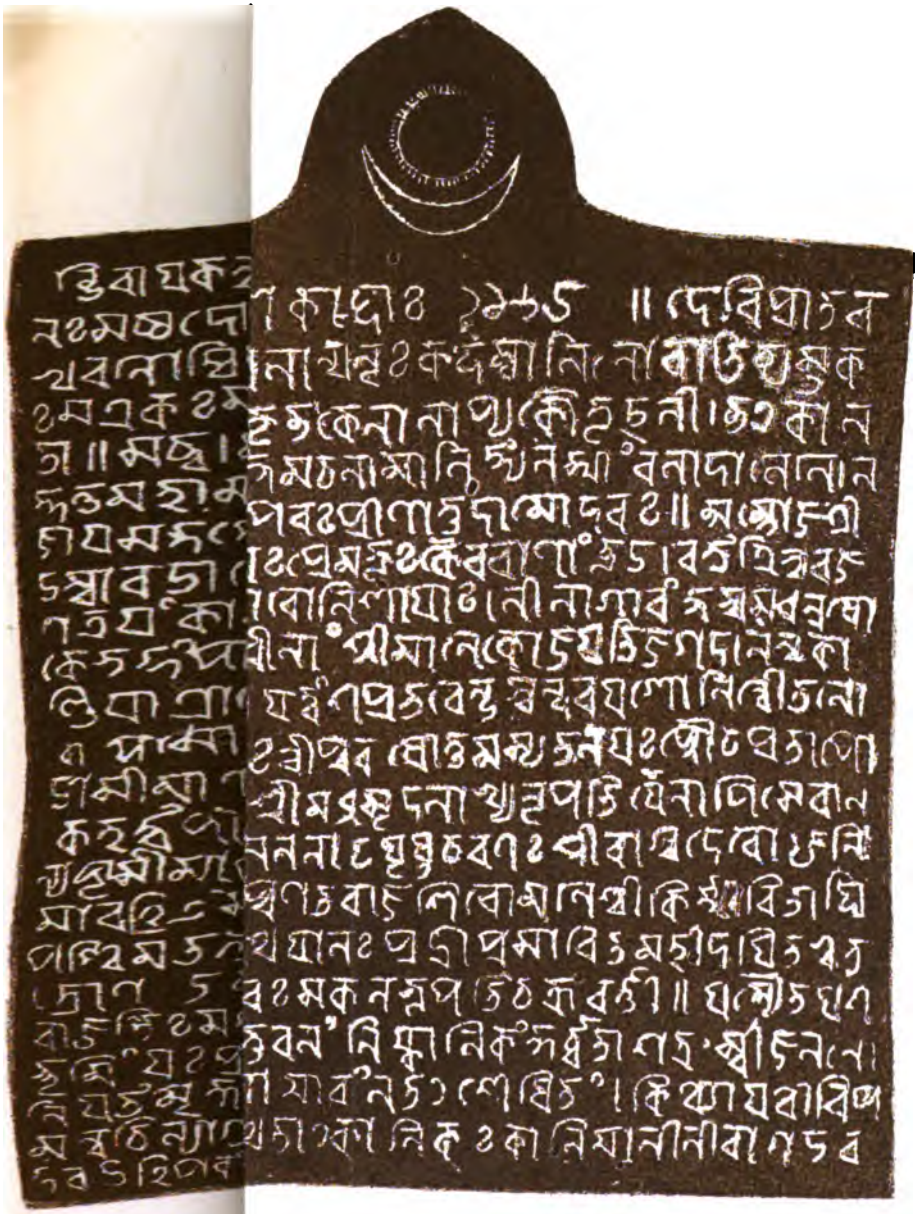


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On the General Theory of Duplex Telegraphy.

By Louis Schwendler.

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Introduction.

The name of "Duplex Telegraphy" has been given to that mode of Electric Telegraphy which admits of the simultaneous transmission in opposite directions of signals between two stations through a single wire. That this name is far from happily chosen, is evident; but, as it is current and has already gained a recognized footing, it is not considered advisable to endeavour to replace it now by a more rational one, and it will therefore be adhered to throughout this paper.*

In the following investigation I shall endeavour to develop the mathematical theory of "Duplex Telegraphy" in its most general form, with the object of determining not only the best arrangement for any particular method, but also the relative values of different methods.

It is manifest that having from general considerations decided on the best method, and further determined the best arrangement for this method, the remaining difficulties, due to the nature of the problem itself, will be exhibited in a clearer light, and the means of overcoming them may then be more easily discerned.

* The German language possesses a peculiarly suitable word in "*Gegensprechen*" and the idea is fully rendered by "*Gleichzeitiges Gegensprechen.*"

It is believed, however, that the sequel will shew, that if the best method be adopted, and for this method the best arrangement be selected, to suit the particular line on which the method is to be employed, the difficulties that stand in the way of Duplex Telegraphy will hardly be greater than those which are encountered every day in ordinary single Telegraphy.

Imperfect Historical Sketch.

Having access to but scanty records in this country, I am not in a position to give an exhaustive history of this most important invention, and consequently the following sketch is necessarily incomplete, and must be taken as merely introductory, it being relegated to those better situated in this respect than myself to clear up the doubtful points of priority, and produce, what is much required, a complete history.

The idea of sending signals in opposite directions simultaneously through a single wire is by no means a new one. As early as 1849, Messrs. Siemens and Halske of Berlin took out a patent in England* for the simultaneous transmission of a plurality of messages by a suitable combination of wires, and, although this patent does not refer directly to Duplex Telegraphy as it was subsequently understood, it must notwithstanding be regarded as a forerunner of it. In point of fact Dr. Wr. Siemens's idea represents the general problem of which Duplex Telegraphy is only a particular case.

In 1854 Dr. Gintl of Vienna tried his "compensation" method of "duplex" working between that capital and Prague,† and on the 30th November of the same year read a paper before the Kaiserlich Königliche Acadamie of Science of Vienna‡ on the practical solution of the same problem by employing a Bain's electro-chemical Telegraph apparatus instead of a Morse's receiving instrument.

In the summer of 1854, after Dr. Gintl's experiments between Vienna and Prague had brought the subject prominently to notice, Messrs. Siemens and Halske of Berlin, and Hr. Frischen independently, invented the "differential" method.

In January 1855, Edlund§ made experiments on the line between Stockholm and Gothenburg. He employed a "differential" method, which he had invented in 1848 for the purpose of measuring accurately Faraday's "extra-currents."

In papers read at Paris on the 16th July and 6th August 1855‖

* 23rd October, 1849. The actual wording of the English patent is unknown to me.

† Polyt. Central bl., 1853, p. 1475.

‡ Wien Akad. Sitzungsber., XIV.

§ Pogg. Ann., 1856, vol. 98, page 634.

‖ Pogg. Ann., 1856, vol. 98, page 128.

before the Academy of Science by M. Zantedeschi, he claims the honour of having first suggested the idea of Duplex Telegraphy, for as early as 1829 he had proved the possibility of the simultaneous transmission of currents in opposite directions through a single conductor. Having never seen his original communication of 1829, it is impossible for me to say how far these early ideas of Zantedeschi bear on the problem; but it is certain that both he and Dr. Gintl took a great deal of trouble to prove an erroneous theory, *viz.*, that two distinct electrical currents can pass simultaneously in opposite directions through the same conductor without in any way interfering with each other. Such a supposition is in direct opposition to the electrical laws which were already known in 1829,* and besides is in no way required in order to explain the simple phenomenon of Duplex Telegraphy.†

None of the above methods, however, came to have extended, or indeed any, practical application. They appear to have been attempted doubtingly and without confidence, and, although the trials are generally reported to have been successful, yet the methods were rejected as impracticable, and came to be regarded as merely of scientific interest.‡

Only recently, after a torpid existence of almost twenty years, has Duplex Telegraphy been revived, and come to be the leading topic in Telegraphy, securing, after such a lapse of time, the amount of public interest it rightly deserves.

To Mr. Stearns, an American Telegraph Engineer, is due the honour of having appreciated the real value of Duplex Telegraphy, and of having (by giving the system, modified by improvements of his own, an extended application on the lines of the United States) proved its thorough practicability.

Enquiry into the Causes which have delayed the Introduction of the System.

When Steinheil in 1837 announced his discovery of the feasibility of employing the earth to complete the electric circuit instead of a return wire, Telegraph Engineers immediately recognized its immense mercantile value, and did not delay to verify his results.

Now, in the career of Telegraphy, the invention of duplex working ranks second only in importance to Steinheil's discovery. The utilization of the earth reduced by one half the number of wires required to carry a given traffic: Duplex Telegraphy again almost halves this number. In

* Ohm published his classical work "Die galvanishe Kette mathematisch bearbeitet" in the year 1828.

† Dr. Wr. Siemens, Pogg. Ann., vol. 98, page 123.

‡ For the light in which Duplex Telegraphy was regarded up till quite lately, see *Schellen, Dub, Sabine, Blavier, Kuhn*, &c.

the face of this fact it is not easy to understand why the one idea received immediate and universal application, while the other, of only about 10 years more recent date, has met until now with universal neglect; but on closer examination it will be found that there have been perfectly comprehensible, although not all rational, influences at work.

An enquiry into the circumstances, therefore, that have caused the discovery of a system, the introduction of which must mark the second great era in Telegraphy, to lie fallow for nearly twenty years is of the utmost interest and cannot fail to be instructive with regard to the prospects of future progress.

From an examination of the methods originally proposed for duplex working, it will be found that they do not in any way essentially differ from those which may now come into actual use. The causes therefore, which have prevented the introduction of the system, must be sought for external to the methods.

The first of these, we find, is that the invention was in advance of the requirements of the age. Telegraph lines had already been constructed, which were quite capable of carrying the given traffic and even more. Further, any increase in traffic could be easily met by an increase in the number of wires on the existing Telegraph posts, instead of by resorting to a system, which had a complex appearance, and after all might not answer.

However, although the above considerations explain the course of events in certain limited instances, and up to a certain time, they do nothing towards justifying the costly expedients that have been generally adopted until recently in preference to introducing Duplex Telegraphy. For instance, the reconstruction and multiplying of long overland lines, and especially the laying of a second submarine cable when the traffic became too great for one.

It is true that the successful application of any duplex method requires lines of a more constant electrical condition, receiving instruments of a larger range,* and Telegraph operators of a somewhat better professional education; but, surely, these three conditions have not all *at once* become fulfilled (since 1872) so as to make Duplex Telegraphy possible only just now? No—the causes, which have delayed its introduction so long, have been of a much less technical and more irrational nature.

The mere fact of the duplex methods appearing complex prevented Telegraph administrations from thinking seriously of introducing them.

* By the "range" of a telegraph instrument I understand the ratio of the largest to the smallest force by which the instrument in question can be worked without requiring a fresh mechanical adjustment. For instance, Siemens's beautiful relays can be easily adjusted to a range of 20, *i. e.*, they can be made to work with one cell through an external resistance equal to their own resistance, and with 10 cells through no external resistance, *without* giving the tongue a fresh adjustment.

The ingenious methods were never tried with that zeal and perseverance which is necessary to carry a new invention successfully through. They were indiscriminately rejected after a few trials made without method or consideration, and the real conditions of success or failure were never examined or pointed out. Thus naturally a prejudice was created against Duplex Telegraphy, and it was fostered by a host of school literature up to the latest time as pointed out before. Further, not a single physicist or electrician investigated the question with a view to ascertaining what quantitative effect the variable condition of lines has on duplex working as compared with single working.

If such an investigation had been made, it would have been found that the technical obstructions in the way were by no means so formidable as had been represented, and that the electrical condition of the lines, as well as the perfection of the instruments, and the professional education of the staff, would have fully admitted of the successful introduction of Duplex Telegraphy at least 10, if not 20, years ago.

It is true indeed that the suggestion of using condensers for balancing the charge and discharge of a line has only been made very lately, being one of Stearns' happy ideas; but this should have been no reason against introducing the system on short and overworked lines, where the charge and discharge is imperceptible. If only one Telegraph administration had shewn the perfect practicability of the system on a short line, the cloud of prejudice would have been dissipated, and suggestions for overcoming the charge and discharge on long overland lines and submarine cables would have been readily enough given, and thereby large capitals saved.

To sum up, therefore, we have the following causes which acted persistently against the introduction of Duplex Telegraphy.

Firstly, the invention was in advance of the age.

Secondly, the Telegraph profession, young as it is, is far more conservative than is good for the advance of Telegraphy, and on the whole Telegraph administrations and staffs have by no means that professional education which is required to conduct practical experiments with a clear understanding, and thence deduce rational conclusions. Thus prejudice was created, which was increased from year to year by authors of school literature writing most discouragingly of the subject.

Thirdly, unfortunately, during all that time no physicist found it worth his while to investigate the duplex methods with a view to ascertain quantitatively what can be expected of them, and how they actually compare, with respect to safety, with single working.

Fourthly, duplex working itself could not progress, because it was neither tried nor investigated, and hence no suggestions for overcoming the difficulty of charge and discharge were called for.

Great honour must therefore be given to Mr. Stearns who brought up the subject again so prominently, and who by his zeal succeeded in introducing it on a large scale, and so elevated the ingenious methods from the questionable position of "interesting scientific experiments."

I think far less of his idea of introducing condensers or Ruhmkorff's coils to balance the charge and discharge of lines, than of his having taken the neglected child up again, against the prejudice of his own profession, and shown that it could have a healthy existence even in the backwoods of America. I trust that these remarks will not be considered irrelevant in the present investigation, since they tend to shew how real progress in one of the youngest branches of applied science may be retarded for a considerable period by nothing but prejudice of the profession themselves, for whom progress should be the first essential; and administrations will see how much the advance of Telegraphy will always depend on their recognizing and encouraging by experiment inventions that are theoretically sound and tend in the right direction.

General Considerations.

Before entering on the solution of the problem for any particular duplex method, it will be advisable once for all to state definitely the nature of the general question before us. This will not only save time, but the subsequent special solutions can then also be made under a general guide, and thus being well linked together, the whole investigation will become far more lucid and concise than it otherwise would be.

While in ordinary (single) Telegraphy the signals are always produced in the same way, *i. e.*, by the signalling current arriving through the line from the distant station, the signals in Duplex Telegraphy may be produced in either of two ways, essentially different from each other. Namely, if the times of sending from the two stations fall together, *i. e.*, no current, or double current, or any difference of currents, is in the line, the signals, so long as this state of the line exists, are produced wholly or partly by the battery of the receiving station. Signals produced in this way we shall call "duplex signals," and these signals alone indicate the essential difference between duplex and ordinary Telegraphy.

If, however, the moments of sending from the two stations do not fall together, the signals are then produced as in ordinary telegraphy, and may be appropriately designated "single signals."

It will be clear then that when the two stations are at work at the same time "duplex signals" and "single signals" must necessarily follow each other in accidental succession. Nay, one and the same signal produced in either station may be partly a "duplex" and partly a "single" signal.

To secure, therefore, regularity of working, the signals produced in either way should be invariably of equal strength.

Further, as in Duplex Telegraphy the receiving instruments must be always permanently connected up with the line, it is one of the first requirements that the out-going or sent current from any station should in itself have no effect whatever on the receiving instrument of *that* station, in order that the instrument may be entirely free to receive signals from the distant station. Thus we invariably have two conditions to fulfil in duplex working, independent of the particular method adopted, namely :—

1. *The receiving instrument of each station should not be affected by its own sending.*

2. *The duplex signals and single signals must be of equal strength.*

If these two conditions, which are necessary and sufficient, could be always fulfilled, Duplex Telegraphy would be entirely on a par with single Telegraphy, for the sending would not only not interfere with the receiving—the more important condition of the two—but the received signals would also be constant in strength, and, therefore, frequent adjustment of the receiving instrument would be no more required than in single Telegraphy.

Theoretically of course every duplex method hitherto suggested fulfils these two conditions, otherwise the method would have to be rejected *a priori* and could not find any place in this paper.

Practically, however, the different methods may behave very differently with respect to the fulfilment of these two conditions, nay, even one and the same method is sure to give quite different results in this respect by only altering the magnitude of the resistances of which the arrangement consists. For in practice variations, especially in virtue of the line having by no means a constant electrical condition, are necessarily going on. These unavoidable variations it is clear may cause very different quantitative disturbances of the two conditions (1) and (2) either if we compare different methods, or the same method under different resistance arrangements.

To make the foregoing clear, we will designate :—

By p the force which acts on the receiving instrument on account of not being able to fulfil the first condition absolutely ;

By P the force which acts on the same instrument, when the distant station is sending *alone, i. e.*, " single signals ;"

And by Q the force which acts on the same instrument, when both stations are sending *simultaneously, i. e.*, " duplex signals."

Then the first condition (1) is expressed by :—

$$p = 0 \qquad \text{(I)}$$

and the second (2) by

$$P - Q = 0 \qquad \text{(II)}$$

Further if p cannot be always kept rigidly equal to zero (on account of unavoidable variations in the system) we should at least have:—

$$\frac{p}{P} = D \text{ as small as possible} \quad \ldots\ldots \quad \text{(III)}$$

and if P cannot be always kept rigidly equal to Q, we should at least have:—

$$P - Q = S \text{ as small as possible.} \quad \ldots\ldots\ldots \quad \text{(IV)}$$

p, P and Q being functions of the resistances and electro-motive forces of the system, which are known so soon as the particular duplex method has been selected.

The general problem which is to be solved for duplex Telegraphy may now be clearly stated as follows:—

D *and* S *are two known functions which must be rigidly equal to zero when no variation in the system occurs; and which for any given variation in the system must be as small as possible, and approximate rapidly towards zero as the variation in the system becomes smaller and smaller.*

Thus the solution of the problem for any given duplex method will always be a question of the Minima and Maxima Calculus.

Having then ascertained the best arrangement for each duplex method, the methods can be compared *inter se*, and that method will be best and should be selected for use which for any given variation in the system gives the least absolute magnitude to the functions D and S.

If we suppose, however, that the particular duplex method is not given, the problem to be solved becomes more general, but would still be entirely within the limits of the Variation Calculus, furnishing no doubt a very interesting and important application of that most powerful mathematical instrument. The general solution would at once determine the best method possible, after which special solutions would give the best arrangement for that best method.

It is, however, not my intention to endeavour to solve here the duplex problem in this most general form. To be able to indicate so general and desirable a solution is by no means identical with being able to effect it. The task before me is far more simple, since, as already pointed out, I shall investigate each duplex method separately to determine its best quantitative arrangement, and ultimately compare the different methods to ascertain their relative values.

To do this, the question may be attacked in two different ways, depending on the purpose for which the solution is required.

Namely, either the solution is to be made when considering the line as a variable conductor only, but not acting perceptibly as a Leyden jar; or the line is to be considered as constant in conduction and insulation, but

acting as a Leyden jar of large capacity. In the first case the solution would be directly applicable to short overland lines (not over 200 miles in length), and in the second case to submarine cables, which, if good, may always be considered sensibly constant in conduction and insulation.

Further, as a long overland line acts both as a variable conductor and as a Leyden jar of sufficiently large capacity, it would then be necessary to give a solution with respect to both these effects. To obtain, however, the same result without rendering the problem too intricate, it will be best to separate the two questions from the beginning, and afterwards combine their solutions judiciously for application to the case of overland lines.

1*st* Problem. *What is the best arrangement of any given duplex method when the line is regarded as a variable conductor, but not as acting perceptibly as a Leyden jar?*

2*nd* Problem. *What is the best arrangement of any given duplex method, when the line is regarded as a Leyden jar of large capacity, but not as a variable conductor.*

The second problem may be expressed more clearly as follows:—

2*nd* Problem. *What must be the distribution of condensers along a given resistance, in order that the two essential conditions* (I *and* II) *may be least disturbed for a speed of signalling variable between two fixed limits?**

It is clear that the nature of these two problems is very different, because in the first we have to deal with forces constant with respect to time, while in the second the forces acting are functions of time, *i. e.*, of the

* A telegraph line always acts as a condenser with capacity and conduction resistance in each point of its entire length, while an artificial condenser, such as a Leyden jar, which we are able to produce sufficiently cheaply, has only capacity but no perceptible conduction resistance in each point. This is in fact the essential difference between a line and a condenser, and, therefore, in order to render their charges and discharges under the same circumstances as nearly as possible equal, as is required for duplex working, it will be necessary to find the law according to which to distribute a certain given system of condensers along a given resistance.

This law will clearly be a function of the signalling speed within its limits of variation. For instance, say the signalling speed is constant, or its range zero, then clearly one condenser connected to any point of the given resistance would suffice; only the magnitude of the capacity of this *one* condenser would be determined by its position with respect to the resistance, and in addition to this would of course be fixed by the signalling speed and the known capacity of the line.

Further, say the speed of signalling is variable between 0 and ∞, or its range is infinite, then clearly only an infinite number of small condensers distributed along the given resistance in the very same manner as the capacity is distributed along the line would strictly answer the purpose: in fact, the condenser required in this imaginary case would be nothing more or less than a second Telegraph line, identical with the one used for signalling. In practice, however, the speed of signalling varies only between narrow limits, and therefore the number of condensers required to reproduce as nearly as possible the action of the line with respect to charge and discharge, will become few, especially if the best system of distribution has been determined. Until this law is known we can do nothing but find it approximately by experiment, however tedious it may be to do so.

signalling speed. (The forces in this case are proportioned to the *true currents*.) The latter problem being far the more intricate and for my special purpose only of secondary importance, I shall begin with the solution of the first.

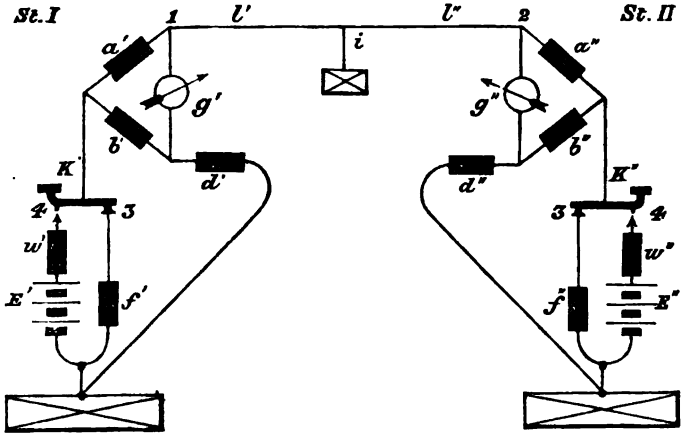
SOLUTION OF THE 1ST PROBLEM FOR ANY GIVEN DUPLEX METHOD.

What is the best arrangement of any given duplex method, when the line is regarded as a variable conductor, but not as acting perceptibly as a Leyden jar?

I. The Bridge Method.*

This arrangement for duplex working is based on the well known method of comparing electrical resistances "Wheatstone's Bridge," and Figure 1 gives the general diagram, when this method is applied for duplex working.

Fig I.



It has also been proposed to use Ruhmkorff's coils for balancing the effect of charge and discharge. This method, however, I believe must be always much inferior to the one of using condensers, inasmuch as the strength of a Voltaic induction current scarcely depends on the speed of signalling, while the charge and discharge of a line, it is well known, is not at all an inconsiderable function of the signalling speed.

Therefore, if the strength of the induction current had been adjusted to balance the charge and discharge of the line for a certain signalling speed, the balance would be considerably and at once disturbed if the speed varied even slightly; and since so long as hand signalling is used a certain variation in the speed of signalling will always exist, this method will prove a failure, or at all events will render fresh adjustments more frequently necessary than when condensers are used.

* Dr. Wr. Siemens mentions this method in Pogg. Ann. Vol 98, p. 122, 1856.

Explanation of Diagram.

E, electromotive force of the signalling battery.

β, internal resistance of the signalling battery.

k, Telegraph key of peculiar construction to be described hereafter.

g, the receiving instrument connected up in that branch of the bridge which when measuring resistances would contain the galvanometer. The letter g represents also the resistance of the receiving instrument.*

a, b, and d are the branches of the bridge.

f, the resistance between the rest-contact of the key and earth.

w, an additional resistance to be inserted in the battery branch for reasons to be given further on.

i, the resistance of the resultant fault ("real absolute insulation" of the line) acting at a distance l' from station I and at a distance l'' from station II (both l' and l'' expressed in resistances so that $l' + l'' = l$ equal the "real conductor resistance" of the line).

Further:

L' the "measured conductor"† resistance of the line when measured from Station I,

$$\therefore L' = l' + \frac{i\,l''}{i + l''}$$

L'' the "measured conductor"* resistance of the line when measured from station II,

$$\therefore L'' = l'' + \frac{i\,l'}{i + l'}$$

ρ' the complex resistance of the duplex arrangement in station I, *i. e.*, the resistance between point 1 and earth.

ρ'' the complex resistance of the duplex arrangement in station II, *i. e.* the resistance between point 2 and earth.

To be quite general we must suppose that the Telegraph line, which connects the two stations I and II, has a different resistance when measured from station I than when measured from station II, and that therefore the best resistance arrangement of station I must be also different from that of station II with respect to magnitude of resistances.

The resistances which are similarly situated in both the stations will be designated by the same letters, and to indicate the station to which they belong, each letter will have *one* accent in station I and *two* accents in station II.

Mr. O. Heaviside Phil. Mag. Vol. XLV, 1873, states that Mr. Eden of Edinburgh claims to have suggested this method at about the same time as Mr. Stearns of Boston U. S. Am. took out a patent for it.

* Siemens's polarized relays are well adapted for this purpose on account of their great sensitiveness and wide range; d'Arlincourt's relays would also answer well.

† Generally these measured values L' and L'' will be different from each other, especially for long overland lines. They can become equal only under two conditions, either if the resistance of the resultant fault (i) is so great that the total conductor resistance of the line ($l' + l'' = l$) can be neglected against it, or for any magnitude of i, if the latter has a position in the middle of the conductor, *i. e.* when $l' = l'' = \frac{l}{2}$

Further, if a relation between the resistances of one station has to hold good between those of the other station also, the letters will be used without any accents.

The great practical advantage of the Bridge method, it will be clear at once, is that any kind of receiving instrument which has been used for single working may also be employed for Duplex Telegraphy. This fact must always be of great consideration for any administration that contemplates the general introduction of Duplex Telegraphy.

General expressions for the two functions "D" *and* "S."

To obtain the functions D and S, we have first to develope the general expressions for the forces p, P, and Q, say for station I.

By p' we understand the force which acts on the receiving instrument g' of station I when that station is sending alone. (Station II at rest.)

p', in our particular case, is therefore proportional to the current which passes through the galvanometer in a Wheatstone's Bridge when balance is not rigidly established, thus

$$p' \propto E' \frac{\Delta'}{N'}$$

where $$\Delta' = a' d' - b' (L' + \rho'') = a' d' - b' c'$$

and

$$N' = g' (b' + d') (a' + c') + f' \left\{ g' (a' + b' + c' + d') + (c' + d') (a' + b') \right\} + a' c' (b' + d') + b' d' (a' + c')$$

Further, by P' is understood the force which acts on the receiving instrument in station I, when station II is sending alone: *Single Signals.*

This force in our particular case is proportional to the current which passes through the receiving instrument of station I when station II is sending alone, and we have consequently

$$P' \propto C'' \mu' \psi'$$

where C'' is the current which enters the line at point 2, when station II alone is sending; $C'' \mu'$ the part of this current C'' which arrives actually at point 1 (on account of leakage between points 2 and 1, a part of C'' is lost), and $C'' \mu' \psi'$ that part of the current $C'' \mu'$ which ultimately produces the signal (*single signal*) in station I. The current $C'' \mu'$ arriving at point 1 branches off in two, one part goes through a' and the other through g' to earth.

Further $$C'' = E'' \frac{m''}{N''}$$

$$\therefore P' \propto E'' \frac{m''}{N''} \mu' \psi'$$

where $$m'' = g'' (b'' + d'') + d'' (a'' + b'')$$

$$\mu' = \frac{i}{i + l' + \rho'}$$

$$\psi' = \frac{f'(a' + b') + a'(b' + d')}{(f' + d')(a' + b' + g') + b'(a' + g')}$$

and N'' an expression identical in form with N'.

Further by Q' we understand the force which acts on the receiving instrument of station I, when both stations are sending simultaneously: *Duplex Signals.*

This force is again proportional to the current which under these circumstances passes through the receiving instrument g' of station I.

This current can be expressed by

$$E' \frac{b'}{n'} - \sigma' \phi'$$

and therefore:

$$Q' \propto E' \frac{b'}{n'} - \sigma' \phi'$$

σ' being the current actually in the line at point 1 when both stations are sending simultaneously; and this current, being the algebraical sum of two currents may be either +, 0, or —. We will suppose that σ' contains the sign itself.

Further we have

$$\sigma' = \frac{E' m'}{N'} - \frac{E'' m''}{N''} \mu'$$

$$n' = (b' + d' + f')(a' + g') + b'(f' + d')$$

and ϕ' is a function which becomes indentical which ψ' if we put

$$w' + \beta' = f'.$$

Therefore the two functions D and S are for the Bridge method (station I) most generally expressed as follows:

$$D' = \frac{E'}{E''} \frac{N''}{N'} \cdot \frac{1}{\mu'} \frac{\Delta'}{m'' \psi'} \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (III')$$

$$\text{and } S' = E' \frac{m''}{N''} \mu' \psi' - \frac{E' b'}{n'} + \sigma' \phi' \quad \ldots\ldots\ldots\ldots \quad (IV')$$

and similar expressions will be obtained for station II, namely

$$D'' = \frac{E''}{E'} \frac{N'}{N''} \cdot \frac{1}{\mu''} \frac{\Delta''}{m' \psi''} \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (III'')$$

$$\text{and } S'' = E' \frac{m'}{N'} \mu'' \psi'' - \frac{E'' b''}{n''} + \sigma'' \phi'' \quad \ldots\ldots\ldots\ldots \quad (IV'')$$

Rigid fulfilment of the first condition, i. e., $D = 0$.

For station I, we have $D' = 0$

which equation can only be satisfied by $\Delta' = 0$

since the other factor of D' cannot become zero for quantities larger than 0 or smaller than ∞. Then substuting for Δ' its value, we have

$$a' d' - b' (L' + \rho'') = 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (V')$$

or balance in station I, when that station is sending and station II is at rest, must be rigidly established.

Therefore, if balance in station I is disturbed, say by L' varying or by any other cause* external to L', we must have means of conveniently re-establishing balance without delay. This of course could always be done by altering either all the branches, a', b', and d', or any two of them, or only one of them; but it is clear that so long as the variation of L' which disturbs the balance does not exceed certain limits, balance may be regained by altering only *one* of the three branches available, and as this will also be more convenient in practice than altering two of the branches, or all three simultaneously, we shall make the supposition that :—

'*Balance is re-established by an appropriate re-adjustment of one of the three available branches.*'†

The question therefore is, which of the three branches, a, b, or d, is the best adapted for the purpose ?

To decide this we must remember that for station II, in accordance with the first condition ($D = 0$), a similar equation has to be fulfilled, namely

$$a'' d'' - b'' (L'' + \rho') = 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (V'')$$

Now ρ' the complex resistance of the arrangement in station I, is a function of all the resistances in station I, and similarly ρ'' the complex resistance of the arrangement in station II, is a function of all the resistances in station II. Therefore, generally, if in order to obtain balance, say in station I, any of the three branches a', b', d' were adjusted, ρ' would alter in consequence of this re-adjustment, and thereby the balance in station II (equation V'') would be disturbed, and vice versâ. In other words the re-adjusting in one station would interfere with the balance in the other station,

* Causes of disturbance to balance external to L' are inappreciable in practice and therefore may be neglected from the beginning.

† Finally, when the best resistance arrangement has been found, the resistance of the different branches will be expressed in terms of L, and therefore to keep the best arrangement when L varies between any two given limits will involve necessarily a simultaneous alteration of the resistance of all the branches.

If, however, the variation of L is small in comparison with L itself, an alteration of *one* branch for the purpose of re-establishing balance is justified, and would be absolutely correct if the variation of L were infinitesimal.

and therefore rigid balance could be only attained after a series of successive adjustments in both the stations, and then only, from a theoretical point of view, approximately, introducing practical difficulties almost insurmountable.

However, examining the positions of the three branches, it will be seen at once that b acts as the galvanometer branch of a bridge for any current arriving through the line. Thus if we were to fulfil the condition,

$$a\,d - f\,g = 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (VI)$$

for both stations, the value of ρ would become at once independent of b,* and consequently any adjustment of b' to re-establish balance in station I would not affect in the slightest degree the balance in station II, and *vice versâ*.

Thus, presupposing the fulfilment of this condition (equation VI) for both the stations, the branch b would evidently be the best suited for adjustment.† Under these circumstances it would then be clear that balance in either station can be obtained by a *single* adjustment of b, and therefore we may call equation VI "*the immediate balance condition*," and the fulfilment of this condition, being of the greatest practical importance to ensure the success of duplex working, we are justified, nay even compelled, to use this relation (equation VI) as the basis for all subsequent investigations.

We will therefore suppose henceforth, that

$$a\,d - f\,g = 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (VI)$$

is rigidly fulfilled for both the stations.

But, as the value of f depends on the position of the key, which during signalling moves from contact 3 to contact 4 and back, the rigid fulfilment of equation (VI) necessitates at once that

$$w + \beta = f \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (VII)$$

not only for both the contacts 3 and 4, but also for all the intermediate positions of the key. Thus supposing that $w + \beta = f$, *i. e.* the resistance from contact 4 through battery to earth equal to the resistance from contact 3 to earth, a key constructed in such a way that contact 4 is not broken before contact 3 is made, and that contact 3 is not broken before contact 4 is made, would fulfil the required condition entirely. Keys of this kind can be easily enough constructed. It is true that in any such key, there will be always a moment when the contacts 3 and 4 are simultaneous, and when therefore the resistance to earth is not f, as it ought to be, but only

* $\rho = \dfrac{(g+d)(a+f)}{a+d+f+g} - \dfrac{(ad-fg)^2}{F(b)}$

Therefore if $ad - fg$ is very near zero, ρ becomes most rapidly independent of b.

† Further, it must be remarked that, even if the condition $ad - fg = 0$ be not rigidly fulfilled, still by adjusting in the branch b we have "*accelerated*" balance, whereas by adjusting in a or d we should on the contrary have "*retarded*" balance.

$\frac{f}{2}$. If it is, however, considered that the time during which this error lasts is very small compared with the time it takes to make a signal, its disturbing effect will never be appreciable in practice, *i. e.* ρ will remain sensibly constant during the time the key is moved to produce a signal.

There will be no practical difficulties connected with the fulfilment of equation (VII), and therefore also none with the fulfilment of equation (VI); for β the internal resistance of the signalling battery is the only quantity which of itself can alter in time. However, this variation of β for any efficient form of signalling battery being invariably steady and small, it will be always possible to neutralize its action in time by a simple re-adjustment of w.

If Leclanché's cells are used, or well prepared Minotti's, a weekly adjustment of w should be sufficient. The measuring of β will always be an easy matter.*

Rigid fulfilment of the 2nd Condition, i. e., $S = 0$.

The general expression for S′ was

$$S' = \frac{E'' m''}{N''} \mu' \psi' - \frac{E' b'}{n'} + \sigma' \phi' \quad \ldots\ldots\ldots\ldots \quad (IV')$$

Remembering that by equation (VII)

$$w' + \beta' = f'$$

we know that $\psi' = \phi'$, and substituting further for σ' its value, the general expression for S' becomes:—

$$S' = \frac{E'' m''}{N''} \mu' \psi' - \frac{E' b'}{n'} + \left\{ \frac{E' m'}{N'} - \frac{E'' m''}{N''} \mu' \right\} \psi' \quad (IV')$$

and this form of S shews at once that it is perfectly immaterial for duplex working by the Bridge method whether the same or opposite poles of the two signalling batteries be put to line,† for in both cases equation (IV′) becomes:

$$S' = \frac{E' m'}{N'} \psi' - E' \frac{b'}{n'} \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (IV')$$

Further, it will be seen that the right hand member of equation (IV′)

* My friend Mr. R. S. Brough suggested the following very simple method for keeping

$$w + \beta = f \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (VII)$$

Insert a small galvanoscope in the branch b, for which balance is established with respect to the received current, *i. e.*

$$ad - fg = 0 \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (VI)$$

Now note the deflection on the galvanoscope when both stations are sending simultaneously, and again when the station for which β is to be measured is sending *alone*. Then clearly if these two deflections are equal, $w + \beta$ must be equal to f. If the two deflections are not equal then alter w until they become equal. After the determination is made, the galvanoscope is short circuited.

† In practice however I prefer to put the same, namely, the positive poles to the line, as then defective insulation will not be felt so much.

can be transformed* into $E' \frac{\Delta'}{N'}$, which is egual to p', or we have generally

$$S = p$$

i. e. the difference of forces by which duplex and single signals in the same station are produced is equal in magnitude and sign to the force by which balance in that station is disturbed.

Consequently the rigid fulfilment of the first condition ($D = 0$) will entail the rigid fulfilment of the second condition ($S = 0$) and this it will be clear is only due to the fact that the complex resistance ρ is independent of b, and that the key during signalling does not alter ρ; whence it follows that the perfection of the key in this respect is of the greatest importance. There are, however, no practical difficulties connected with the construction of a key which fulfils condition (VII) perfectly.

By the aid of the relations given in equations (VI) and (VII) we have therefore gained the great practical advantage, that Duplex Telegraphy will be entirely on a par with single Telegraphy, if the means of attaining rigid balance are sufficiently accurate, convenient and rapid.

But, even supposing that we are unable to keep that balance rigidly for any length of time (on account of L varying), we can nevertheless bring the regularity of duplex working as near as possible to that of single working by making D and S as small as possible for any given variation of L.

Rapid approximation of the two functions D *and* S *towards zero.*

For station I we had

$$S' = p' \propto \frac{E' m'}{N'} \psi' - \frac{E' b'}{n'} \quad \ldots\ldots\ldots \quad (IV')$$

which we may also write

$$S' = p' \propto \frac{E' b'}{n'} \left\{ \frac{1}{1 - \frac{\Delta'}{m' \psi'}} - 1 \right\} \quad \ldots\ldots\ldots \quad (IV')$$

* We have

$$\psi = \frac{k}{n}$$

$$N = \frac{mk - \Delta n}{b}$$

$$\therefore S = \frac{E b \Delta}{mk - \Delta n}$$

$$= \frac{E b \Delta}{b N}$$

$$= \frac{E \Delta}{N} = p$$

since $$\frac{m'}{N'} = \frac{b'}{k' - \Delta' \frac{n'}{m'}}$$

and $$\psi' = \frac{k'}{n'}$$

Further if we call b' the value of b which in station I establishes rigid balance for any given values, a', d' and L', we have

$$\Delta' = b.' \delta L'$$

where $\delta L'$ is the variation of L' which throws the balance out, and which variation may be either positive, zero or negative ($\delta L'$ shall contain the sign in itself).

Further substituting

$$\frac{m' \psi'}{b'} = y'$$

and $$\frac{E' b'}{n'} = G'$$

The expression for S' may be written as follows:—

$$S' = p' \propto G \left\{ \overbrace{\frac{1}{1 - \frac{\delta L'}{y'}} - 1}^{F'} \right\} = G' F'$$

which is the best form of S' for our purpose.

The function S' consists of two factors, namely, of G' which, at or near balance, is proportional to the current by which duplex and single signals in Station I are produced; and of F' which at balance = O.

Therefore to make S' as small as possible when balance is disturbed, we can only do so by making F' as small as possible, which is evidently the case for $y' = \frac{m' \psi'}{b'}$ a maximum. Further

$$D' = \frac{p'}{P'} = \frac{S'}{P'}$$

$$S' = G' F'$$

and since at or near balance

$$P' \propto G'$$

it follows that

$$D' = F'$$

i. e. the 1st condition is also fulfilled by

$$y' = \frac{m' \psi'}{b'} \text{ } \textit{a maximum.}$$

Our problem for station I would therefore be most generally solved if we make the function y' a maximum, remembering that the variables con-

tained in y' have to fulfil two condition equations, namely the *immediate balance* (equation VI) and *the balance* (equation V).

Substituting for m' its value, and remembering that

$$\psi' = \frac{a'}{a' + g'}$$

on account of the *immediate balance* condition (equation VI), we get

$$y' = \frac{a'\,(g' + d')}{a' + g'} + \frac{a'\,d'}{b'}$$

But

$$\frac{a'\,(g' + d')}{a' + g'} = \rho'$$

the complex resistance of station I (the expression for ρ has become thus simple on account of the immediate balance condition VI).

Further

$$\frac{a'\,d'}{b'} = L' + \rho''$$

(on account of balance in station I, being established, equation V).

Thus we have

$$y' = \rho' + \rho'' + L'$$

for station I.

And similarly

$$y'' = \rho' + \rho'' + L''$$

for station II.

Therefore the rapid approximation of both the functions D *and* S *towards zero in both stations is obtained, if we make the complex resistances* ρ' *and* ρ'' *maxima.*

Now the form of ρ shews at once that it has a maximum for

$$(a + f) = (g + d)$$

which, in consequence of equation (VI), gives at last

$$a = g = d = f \quad \ldots\ldots\ldots \quad \text{(VIII)}$$

From the development of this result it will be clear that the relation expressed by equation (VIII) must hold for either station independent of L.

All that now remains is to determine b, and further to fix the absolute magnitude of any one of the branches. Before doing this it is however necessary to enquire what the other factor of S, namely G, becomes in consequence of fulfilling the regularity condition as expressed by equation (VIII).

The current which passes through the receiving instrument to produce "single" as well as "duplex" signals is at balance expressed by

$$G = E.\ \frac{a\,g}{(a + g)\left\{L\,(a + g) + 2\,a\,(g + d)\right\}} \times \text{const.}$$

which expression has a maximum for either a or g.

The maximum of G, with respect to a, it will be seen, contradicts the regularity condition, since $a = g = d$ could only satisfy

$$\frac{d\,G}{d\,a} = 0$$

if d were negative, a physical impossibility.

However, the maximum of G with respect to g, gives

$$\frac{d\,G}{d\,g} = L\,(a^2 - g^2) + 2\,a\,g\,(d - g) = 0$$

which is satisfied by

$$a = g = d$$

This is a fortunate coincidence and speaks well for the Bridge method.

Now substituting for a and d their value g in the expression for the current G, we get

$$G = \frac{E}{4}\,\frac{1}{L + 2\,g} \times \text{const.}$$

and this expression multiplied by $\sqrt{g}$ gives the magnetic effect of the receiving instrument, namely:

$$M = \frac{E}{4}\,\frac{\sqrt{g}}{L + 2g} \times \text{const.}$$

which has an absolute maximum with respect to g for

$$g = \frac{L}{2}$$

Further substituting in the balance equation (V)

$$a = d = g = \frac{L}{2}$$

we get

$$b = \frac{L}{6} \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad \text{(IX)}$$

We have therefore the following two equations by which the problem is generally solved

$$a = g = d = f = \frac{L}{2} \quad \ldots\ldots\ldots \quad \text{(VIII)}$$

$$b = \frac{a}{3} = \frac{L}{6} \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad \text{(IX)}$$

by L being understood the measured conductor resistance of the line from that station for which the best resistance arrangement is to be calculated.

General Results.

1. The branches of the bridge with the exception of the one lying opposite the line must be equal to each other and severally equal to half the measured conductor resistance of the line.

2. The branch lying opposite the line should be equal to the 6th part of the measured conductor resistance of the line, and in this, the smallest of all the branches, readjustment of balance should be made only.

Nos. 1 and 2 necessitate the alteration of all the branches if L, the measured conductor resistance, alters within wide limits. A determination of L will therefore be required from time to time.

From the development of these general results it will be evident that they fulfil the following conditions:

I. The irregularity of signals in the one station is entirely independent of the irregularity of signals in the other station.

II. The irregularity of signals in each station is due only to balance not being rigidly established.

III. If balance in either station is disturbed, a single adjustment in the branch b *will re-establish that balance.*

IV. Any disturbance of balance will have the least possible effect on the received signals.

V. Maximum current at balance.

VI. Maximum magnetic effect of the maximum current on the receiving instrument.

(*To be continued.*)

Descriptions of new Marine Mollusca from the Indian Ocean, *by* Messrs. G. and H. Nevill.

[Received and read 4th March, 1874.]

[With Plate I.]

The present paper is a continuation of two which were published in Vol. XXXVIII for 1869 of the Society's Journal, at pp. 65 and 175. The types of all the species now described are in the extensive collection belonging to the Trustees of the Indian Museum, to whom also we are indebted for the use of the drawings from which the accompanying plate has been executed. A considerable number of the more interesting forms were obtained by Mr. Wood-Mason, who in 1872 spent two months dredging at the Andaman Islands; in the large and fine collection of shells made on this occasion, particularly interesting owing to the careful manner in which the specimens were preserved, their exact habitat recorded, &c., very many interesting novelties still remain to be described. We regret that figures of the three new species of *Marginella* have been accidentally omitted from the plate, we hope, however, to figure them before long with our next paper.

CONUS (CHELYCONUS) PRETIOSUS, n. sp.

A single specimen of this lovely shell was dredged alive by Mr. Wood-Mason at about 45 fths.; it most resembles *C. subulatus*, K., from which it can be distinguished by its more pyriform, elegantly produced shape, by its being nearly perfectly smooth (on the under side only, on ⅓rds of the last whorl, are unusually distant, impressed grooves to be traced, and even these are almost obsolete); in colour it is like Fig. 457 of the Thesaurus (*C. spectrum*) being white, throughout closely dashed with wavy, brown, slightly pinkish splashes, these markings are somewhat larger and more distinct on the spire, and also form two irregular bands on the body whorl; apex very sharp, spire much produced, composed of 14 whorls, acutely angled in the middle (as in *C. Malaccanus*), above this angle spirally striated, striæ numerous, near the apex very slightly granular; interior of the aperture a beautiful pink, white near the margin; epidermis thin, smoothish, compact.

Long. 60 Mil., Diam. 25 Mil., Long. Apert. 48 Mil.

Andamans.

CONUS (CHELYCONUS) MASONI, n. sp.

This shell may prove to be the true *C. muscosus* of Lamarck, it certainly resembles most closely the shell figured by Reeve, Pl. XXIX, Fig. 167c, as the young of the West Indian *C. characteristicus*, Ch. and identified by him as the variety named *muscosus* by Lamarck; Mr. Wood-Mason dredged at the Andamans, at a depth of 15 fths., ten living specimens of this interesting species; its affinity to the true West Indian *C. characteristicus* is remarkable, but, besides its much smaller size and different habitat, it can be distinguished by being more contracted at the base, by the apex being very sharp and pointed instead of obtuse, by the two spiral grooves being undulated, especially strongly near the apex, giving the shell almost a coronated appearance; the coloration, as remarked by Reeve, is of a different pattern from that of typical *C. characteristicus*, being composed of much broader flames, interspersed with more numerous and finer zig-zag lines, and the spire, instead of being ornamented with rather numerous and somewhat narrow brown markings, possesses few but very broad flames of that colour; there is also a very marked difference in the striæ near the base: in *C. characteristicus* these are more raised and rounded, as well as regularly, though somewhat distantly, reticulated with brown and white, in our East Indian species this reticulation does not exist, and these striæ, especially the upper ones, instead of being raised are pricked in; the epidermis is thin, close and compact.

Long. 25 Mil., Diam. 14½ Mil., Long. Apert. 21½ Mil.

CONUS (RHIZOCONUS) SEYCHELLENSIS, n. sp.

Shell like *C. Ermineus*, Born, but constricted in the middle of the body

whorl, more attenuated at the base, with the whorls of the spire more convex; colour a uniform brilliant orange, here and there of a lighter shade, faintly stained with light-brown at the extreme base.

Long. 39 Mil., Diam. 19 Mil.

Seychelle Islands. Rare.

MARGINELLA (GLABELLA) PICTURATA, n. sp.

Shell small, rather thick, resembling a miniature *M. gemma*, A. Ad. (? = *festiva*, Rv. var.) whorls six, spire conically exserted; rufous-brown, throughout indistinctly mottled, round the centre a rather broad white band and row of distant, regular, square, dark-brown spots, a second less distinctly marked band near the base of the last whorl; columella regularly four-plaited, aperture straight, very narrow, outer lip much thickened and reflexed, marked with three brown spots.

Long. 3½ Mil., Diam. 1¾ Mil., Long. Apert. 1¾ Mil.

Mauritius. (Coll. Dr. Stoliczka and Indian Museum).

MARGINELLA (VOLVARINA) INCONSPICUA, n. sp.

This small species belongs to the same group as the succeeding, both being allied to *M. neglecta*, Sow.; shell white, shining, smooth, whorls three to four, the last one contracted at the base, swollen above; margin of the outer lip slightly flexuous, two upper plaits on the columella small and transverse, the two lower ones large and nearly perpendicular.

Long. 3½ Mil., Diam. 1¾Mil., Long. Apert. 2 Mil.

Mauritius (Coll. Dr. Stoliczka and Indian Museum).

MARGINELLA (VOLVARINA) DEFORMIS, n. sp.

This small shell resembles no species of the genus known to us, except *M. suavis*, Souv., Journ. de Conchil., 1858, p. 376; the present species, however, differs in not having its last whorl as regularly cylindrical, but abruptly inclined to one side, making the aperture shorter and more contracted, and giving the shell a somewhat deformed appearance; the two lower plaits on the columella are of a different character, instead of being nearly transverse, as are the two upper ones, they are almost perpendicular; on the last whorl instead of three, there are only two pink bands, both very broad, the band on the upper whorl is also just above the suture, not beneath it.

Long. 4½ Mil., Diam. 2¼ Mil., Long. Apert. 2 Mil.

Ceylon. Rare.

CITHARA AMABILIS, n. sp., Pl. I. Fig. 11.

Shell small, oblong, fusiformly ovate, spire short; whorls seven, longitudinally strongly ribbed, ribs rather distant, on the last whorl unusually convex, these ribs, on the last three whorls, are formed of swollen, almost spherical granules, on the two apical whorls they are very small, colourless and without sculpture, on the other two the ribs are also colourless, but with

the interstices transversely, rather distantly and very regularly ridged; white, with a double row of bright brown granules on the 5th and 6th whorls, with three of the same double rows on the last whorl; outer lip thickened, very regularly ridged, columellar margin reflected and ridged, aperture very straight, with a very small notch at the top.

Long. 7 Mil., Diam. 3 Mil.

Mauritius.

MITRA (PUSIA) CERNICA, n. sp., Pl. I. Fig. 9.

Shell small, stout, glabrous; whorls eight, obtusely rounded, apex decollated, longitudinally, somewhat indistinctly plicately ribbed, ribs smooth, wide, close together, in the interstices transversely minutely striated, sculpture altogether obsolete on the back of the last whorl; colour rich chesnut-brown, with a moderately broad white band round the middle of the last whorl, ornamented in its centre with a row of square, distant, regular brown spots, this white band can be traced indistinctly near the suture of the upper whorls; interior of the aperture prominently ridged, columella five-plaited.

Seven or eight specimens of this pretty species have come under our notice, its nearest ally seems to be *M. pardalis*, Küst.

Long. 12½ Mil., Diam. 5½ Mil.

Mauritius.

NASSA (HIMA) SISTROIDEA, n. sp., Pl. I. Fig. 6.

Shell fusiformly ovate, thick, yellowish-brown, with a narrow black belt just above the suture, and a second broader one in the centre of the last whorl; whorls five to six, depressed into a sort of groove next the suture, obliquely rather closely longitudinally ribbed, entire surface spirally ridged with white, forming small, somewhat indistinct, white granules where the ridges cross the longitudinal ribs; inner lip with the callus defined, of a deep mauve colour, with three plaits at the base: outer lip simple, strongly varicose, interior a deep mauve colour, irregularly ridged with white near the margin and with a single white zone near the centre; operculum typical. Totally unlike both in form and colour the other species of the genus in these seas, it has some analogy with certain species of *Sistrum*.

Long. 17 Mil., Diam. 11 Mil.

Andamans. (Coll. Rev. J. Warneford, Dr. Stoliczka and Indian Museum).

NASSA (TELASCO) STOLICZKANA, n. sp., Pl. I. Fig. 8.

There is only one species of the genus that at all resembles this interesting form, viz., *N. semiplicata*, A. Ad. (China, Benson) numerous specimens of which we have seen in all stages of growth from Madagascar, Mauritius, Ceylon, and Arakan; the shell here described is considerably smaller, more regularly and closely longitudinally ribbed, the interior more richly stained with brown, the last whorl sculptured with incised, transverse lines

over ⅔ of its length, whereas in *N. semiplicata* there are merely a few almost obsolete striæ at the base; in *N. Stoliczkana* there is also a very distinct second sutural row of well-developed granules, not existing in *N. semiplicata.*

Long. 10 Mil., Diam. 5½ Mil.

Calicut. (Coll. Dr. Stoliczka and Indian Museum).

NASSA [ARCULARIA] CALLOSPIRA, A. Ad. [? juv. ? n. sp.] Pl. I. Fig. 5.

We have long hesitated whether to regard the shell here figured as a new species, or merely as a not fully developed form of *N. callospira* in which the characteristic callosity does not extend to the apex; in this latter typical stage, the Indian Museum possesses a single specimen also from the Andamans, the sculpture appears to be perfectly identical, the ash-coloured bands are somewhat more apparent in the form figured; the interior of the typical specimen is a light yellow, especially vivid within the canal, but in the form here described, the interior, in the seven or eight specimens seen, is a pure white.

Long. 10½ Mil., Diam. 7 Mil.

Andamans. (Coll. Rev. J. Warneford, Dr. Stoliczka, and Indian Museum).

NASSA [NIOTHA] SINUSIGERA, A. Ad. var. Cernica, Pl. I. Fig. 7.

At first we thought this Mauritian form might be separated as a distinct species, none of the eight or nine specimens seen are filleted with brown in the manner figured and described by Reeve in his monograph of the genus, the variety here named and figured being merely stained with that colour at the sutures and at the base of the last whorl, especially vividly round the basal canal; the present variety, moreover, can scarcely be described as "granulated at the sutures," though indeed there is a slight trace of something of the sort; in other respects it agrees with the figure and description of the typical form.

Long. 11½ Mil., Diam. 7 Mil.

Mauritius. (Coll. Dr. Stoliczka and Indian Museum).

RISSOINA MINUTA, n. sp., Pl. I. Fig. 15.

Shell very small, shining, white, somewhat resembling *R. obeliscus*, Recl.; whorls eight, angularly turreted, the first three thin, embryonal, without sculpture, sometimes decollated in the adult, the others ornamented with longitudinal, thick, slightly oblique, and somewhat irregular ribs, interstices smooth; last whorl with a single spiral row of prominent granules near the base, at the termination of the ribs; outer lip thickened, smooth.

Long. 2½ Mil., Diam. 1 Mil.

Andamans. (Coll. Indian Museum and Rev. J. Warneford).

RISSOINA EVANIDA, n. sp., Pl. I. Fig. 14.

Shell very small, white; whorls six, convex, the first two embryonal,

shining and smooth, the rest longitudinally sculptured with oblique, somewhat indistinct and distant undulations, disappearing altogether on the latter half of the last whorls, spirally striated throughout, striæ close and somewhat scabrous, causing the outer lip to be minutely but regularly denticulated; columella abruptly twisted backwards, making a sharp angle at the base of the aperture. This species resembles *R. nivea*, A. Ad. from Australia, but is a smaller shell, composed of fewer whorls, spirally striated throughout, instead of only on the basal portion of the last whorl, the ribs also are not so strongly developed and are more oblique, the peculiar formation of the aperture and its canal are, however, exactly similar.

Long. 2½ Mil., Diam. 1 Mil.

Andamans.

RISSOINA PERCRASSA, n. sp., Pl. I. Fig. 13.

Shell large, very thick, white; whorls seven, angularly turreted, the last equal in size to the other six, the first five sculptured with very massive, longitudinal ribs, on the last two whorls the sculpture is obsolete, traces only can be seen near the columella, the last whorl has a transverse, rather indistinct furrow beneath the suture and a very broad, rounded and callous rib, extending from the top of the aperture to the margin of the outer lip, becoming somewhat indistinct near its termination; columella thickened and reflected, outer lip very thick and callous, angled near the centre at the point where the previously mentioned rib joins it. The furrow below the suture and the broad rib near the base of the last whorl are characteristics not known in any other species of the genus; it is also a more callous shell.

Long. 8 Mil., Diam. 3 Mil.

Mauritius. Rare.

ARCUELLA, n. sub-gen.

Differing from typical species of *Eulima* by regular spiral striation and by the columella being twisted back, so as to form an acute angle at the base of the aperture.

EULIMA [ARCUELLA] MIRIFICA, n. sp., Pl. I. Fig. 10.

Shell slender, aciculate, white and shining; whorls fifteen, very narrow and tortuous, regularly and closely but very minutely spirally striated throughout, a somewhat superficial groove is apparent, a little below the centre, on all except the last and first five or six whorls; columella thickened, twisted and bent backwards, forming a sharp angle at its junction with the outer lip; interior of the aperture striated; varices certainly exist on the whorls, but they are too indistinct to be traced satisfactorily; in shape this shell somewhat resembles *Eulima tortuosa*, Ad. and Rv.

Long. 8 Mil., Diam. 1½ Mil.

Ceylon. A single specimen only has been found.

TROCHUS [SOLARIELLA] CASTUS, n. sp., Pl. I. Fig. 4.

Shell conoidal, glabrous; white, ornamented with brown, sometimes in distant broad flames, sometimes in minute close reticulations, base white, on the outer half only, streaked or marbled with brown; whorls five to six, angular, spirally keeled, keels prominent, four to five; outer half of the base with five, distant, impressed spiral lines; round, and entering into, the open, deep umbilicus some six spiral rows of close oblique granules, the outer row of which is the largest.

Alt. 7½ Mil., Diam. 9 Mil.

Ceylon. (Coll. H. Nevill and Indian Museum.)

TROCHUS [CLANCULUS] TONNERREI, n. sp., Pl. I. Fig. 3.

Shell small, turbinated, similar in shape to our *C. Ceylonicus*, J. A. S. for 1869, p. 157, (? = *depictus*, A. Ad.); white, above marked with broad flames of chesnut-brown, on the base closely mottled with the same colour; whorls five, convex, with four rows of spiral, coarsely granulated keels on each whorl, last whorl at the periphery almost rounded, with two rows of the spiral keels more strongly developed than the rest; interior of the aperture striated, forming a slight denticulation at the outer margin; base slightly convex, with nine rows of granulated keels, margin of the umbilicus thickened and rather indistinctly twisted or denticulated, somewhat as in *C. scabrosus*, Phil., in this respect differing essentially from *C. Ceylonicus* and most others of the sub-genus; it is somewhat allied to *C. Kraussii*, Phil. I have named this shell in honour of Dr. Fabre Tonnerre, who some years ago presented to the Asiatic Society of Bengal a valuable collection of birds, shells, &c.

Alt. 6 Mil., Diam. 7 Mil.

Aden.

TROCHUS [MONILEA] WARNEFORDI, n. sp., Pl. I. Fig. 2.

Shell flatly conoidal; whorls six, angular, spirally ribbed with rather distant, slightly undulating costulations, keeled at the periphery; on the angle of the last whorl, a row of slightly raised transverse undulations, giving the shell a coronated appearance; brown, irregularly and minutely reticulated with white; base smooth, glabrous, closely ribbed, ribs somewhat superficial, flat, with a smooth thickened callosity round the umbilicus, forming a tooth on the margin of the columella; interior of the aperture barely striated. The only species at all resembling this fine shell are *Monilea rigata*, Phil., *M. callifera*, Lam. (also found in our Indian Seas) and our *M. Masoni;* it can, however, be easily distinguished from all of them by the above characters.

Alt. 9½ Mil., Diam. 13½ Mil.

Andamans. Rare.

TROCHUS [MONILEA] MASONI, n. sp., Pl. I. Fig. 1.

Shell in form resembling *M. callifera*, Lam. but more depressed; whorls six, closely and acutely spirally keeled, alternate keels larger, very closely, obliquely decussated, both on the ridges and in the interstices, whereas in *M. callifera* the ridges only are decussated; flesh-coloured or white, above radiately striped at wide intervals with reddish-brown, partially continued on the base, throughout irregularly and closely mottled with brown; base closely ribbed, ribs scabrously decussated, a broad and raised callosity round the open umbilicus, this callous rib being very closely and regularly convexly striated; columellar margin very thick and callous, much contorted, interior of the aperture barely striated, nacre very thick and brilliant.

Alt. 11 Mil., Diam. 16 Mil.

Andamans. (Coll. Rev. J. Warneford, Dr. Stoliczka, and Indian Museum).

SCUTUS [?] ABNORMIS, n. sp., Pl. I. Fig. 12.

Shell colourless, thin, oblong, slightly arched; apex nearly central, broad anteriorly and squarely truncated, posteriorly abruptly and peculiarly compressed, forming in the centre, from the apex to the margin, a deeply excavated trough, with a corresponding raised, acute projection in the interior; concentrically and continuously striated, striæ anteriorly abruptly angled. This remarkable shell is unlike that of any mollusc hitherto described, and should probably form the type of a new genus; unfortunately neither Dr. Stoliczka nor ourselves have as yet been successful in obtaining it alive, it therefore seems best to class it temporarily as a species of *Scutus*, although it differs from all the known species of that genus in being posteriorly, not anteriorly, acuminated and compressed; the internal, acute ridge is also peculiar.

Long. 31 Mil., Diam. 19 Mil.

Penang (Dr. Stoliczka). Chandpur, Bay of Bengal.

LIMOPSIS COMPRESSA, n. sp., Pl. I. Fig. 17.

Shell resembling *L. Japonica*, A. Ad. but more compressed and the umbones more prominent, it is much less inæquilateral than *L. cancellata*, Rv.; the interior is of a distinct green hue, irregularly and somewhat indistinctly longitudinally striated; there are about fourteen teeth, slightly and irregularly tinged with chesnut-brown, on each side of the hinge; externally it is sculptured with rather crowded longitudinal striæ, scabrously decussated and with the alternate striæ larger; umbones prominent and acute; epidermis very long, thick, and silky.

Long. 20 Mil., Diam. 20 Mil., Alt. 5 Mil.

Andamans. Dredged alive at 8-13 fths. (J. Wood-Mason).

[Coll. H. Adams, Esq., Dr. Stoliczka, Rev. J. Warneford, Indian Museum.]

PECTUNCULUS PLANATUS, n. sp., Pl. I. Fig. 16.

Shell flat, orbicular, umbonal margin perfectly straight and much produced; white, mottled and variegated with reddish-brown, longitudinally ribbed, ribs about 24, each one divided by a deep groove in the centre, throughout closely, almost fimbriately, decussated with crowded transverse striæ; margin deeply incised; teeth 14 on the posterior and 11 on the anterior side; interior mottled with brown, distantly grooved. I know of no species at all like this interesting Pecten-like species, perhaps it most resembles *Pect. vitreus*, Lam.

Long. 14 Mil., Diam. 14½ Mil., Alt. 4 Mil.

Andamans.

TRITON [GUTTURNIUM] ORIENTALIS, n. sp.

This beautiful species is well figured by Reeve, Pl. XI, species 38, though it seems almost incredible that he could have confused it with the South American *Triton gibbosus*, Brod., correctly figured later on in the Iconography, Pl. XIV, species 38 b. and c. The outer lip and four varices are very broadly and flatly expanded, the canal is more produced than in the true *T. gibbosus* and slightly umbilicated, as in *T. labiosus*, Wood; the columellar margin and interior of the aperture are white, the sculpture and epidermis are similar to those of *T. gemmatus*, Rv.; operculum normal.

Long. 33 Mil., Diam. 20 Mil.

Four living specimens were dredged by Mr. Wood-Mason at the Andamans.

We take this opportunity to point out that the shell described by Sowerby in the Thesaurus, Pl. 328, Figs. 537-8, from the Red Sea, as *Cypraea Macandrei*, is a mere variety of *C. Beckii*, Gaskoin from the same locality.

Pease having described, Journ. American Conch. for 1867, a *Mitra* (*Nebularia*) *assimilis* (very doubtfully distinct from *Nebularia caeligena*, Rv.), we propose to change to *Mitra* (*Turricula*) *Garrettii*, the shell described as *Mitra assimilis* by Garrett, Proc. Zool. Soc. for 1872.

The shell described by Lienard as *Leptoconchus Robillardi*, Journ. de Conchil. for 1870, p. 305, and figured by ourselves in the Society's Journal for 1871, Pl. I, fig. 1, is *Coralliobia fimbriatus*, A. Ad.; we are indebted to Mr. Henry Adams for pointing out the probability of the above identification and for giving us an opportunity of examining a typical specimen.

Explanation of Plate I.

		Page
1.	*Trochus Masoni*, n. sp., × 2;	28
2.	*T. Warnefordi*, n. sp., × 2	27
3.	*T. Tonnerrei*, n. sp., × 3;	27
4.	*T. castus*, n. sp., × 2;...	27
5.	*Nassa callospira*, A. Ad., × 2;	25
6.	*N. sistroidea*, n. sp., × 2;	24
7.	*N. sinusigera*, A. Ad., × 2;...	25
8.	*N. Stoliczkana*, n. sp., × 2;	24
9.	*Mitra Cernica*, n. sp., × 2;...	24
10.	*Eulima mirifica*, n. sp., × 4;	26
11.	*Cithara amabilis*, n. sp., × 4;	23
12.	*Scutus abnormis*, n. sp., nat. size;	28
13.	*Rissoina percrassa*, n. sp., × 3;	26
14.	*R. evanida*, n. sp., × 7;	25
15.	*R. minuta*, n. sp., × 7;	25
16.	*Pectunculus planatus*, n. sp., × 2;	29
17.	*Limopsis compressa*, n. sp., × 2;	28

Remarks on some Indian Fishes,—*by Surgeon Major* Francis Day.

(Received March 25th ; read April 1st, 1874.)

Amongst a small collection of Burmese fishes presented last year by Mr. Theobald, of the Geological Survey of India, to the Indian Museum, I found a species of Goby of the genus *Sicydium* which appears to be undescribed. The exact locality in which it was captured has not been recorded, but I believe it to be identical with a specimen in my collection from Pegu, which, being in Europe, is not available for comparison.

Sicydium fasciatum, sp. nov.

B. iv, D. 61 $\frac{1}{16}$, V. 6, A. 11, C. 13, L. v. 70, L. tr. 15.

Length of head, of caudal fin and height of body each 1/5 of the total length. *Eyes*, diameter 2/9 of length of head, nearly 1½ diameters from the end of snout and 1¾ apart. Body subcylindrical: head rather flattened superiorly and broader than high, its breadth being equal to its length excluding the snout. Cleft of mouth horizontal extending to below the middle of the orbit: lips rather thick: snout overhanging the mouth. *Teeth*, in the upper jaw small and implanted in the gums in a single row: those in the lower jaw large, conical, recurved, some distance apart, the anterior ones being the largest and the posterior one likewise somewhat larger than the lateral ones. *Fins*, dorsal spines rather filiform and projecting beyond the membrane, being 3/4 as high as the body beneath; pectorals nearly as long as the head: ventrals short forming a complete disk. *Scales* somewhat irregularly arranged, extending forwards nearly to the eyes, those anterior to the dorsal fin and also in front of the anal much smaller than the others. *Colours* reddish-brown, with about six vertical darker bands on the body wider than the ground colour, some dark spots likewise present: under surface of the body dirty yellowish-brown. Fins nearly black with a light, nearly white, edge.

Habitat—Burma to 2¼ inches in length.

Semiplotus McClellandi, Bleeker.

A fine specimen of this fish in excellent condition also existed in the same collection, this being the first time that it has been found so far to the eastward. During my recent tour in Assam, I ascertained that its distribution is much more extensive than had been hitherto recorded. Under the native name of *Lah-bo-ee*, it is common in the upper portions of the Boreli river near Tezpur. I also obtained it near Goalpara, and from all the affluents of the Brahmaputra that I visited in Upper Assam, but it is generally known as the *Sun-de-o-ree* or *Rajah mas*. Fishermen assert that it was termed Rajah's fish, because all that were caught had to be

taken to the native Rajahs for their special eating. As food it does not appear to possess any very excellent flavour, whilst it seems too common to render it necessary to issue any strict orders regulating its consumption. I did not find it in the main stream of the Brahmaputra, and it is said only nominally to reside in the clear side rivers.

LABEO DYOCHEILUS, McClelland.

Goreah or *Heel goreah*, Assam.

B. III, D. 3/10, P. 18, V. 9, A. 8, C. 19, L. l. 43, L. tr. 8/8.

Length of head 1/5, of caudal 2/9, height of body 1/4 of the total length. *Eyes*, diameter 2/11 of length of head, 3 diameters from end of snout. Snout with pores and a lateral lobe, the lower labial fold interrupted. *Fins*, the dorsal commences nearer the snout than the base of the caudal, whilst it is somewhat in advance of the ventrals. *Scales*, 6½ rows between the lateral line and the base of the ventral fin. *Colours*, bluish slate colour becoming lighter on the abdomen: fins black.

Habitat—Throughout Assam.

This species is a distinct *Labeo* and not a *Cirrhina;* it attains a large size.

Barbus hexagonolepis, McClelland, or *Bokar* of the Assamese, is entirely distinct from *Barbus hexastichus*, McClelland, or *Lobura* of the Assamese, with which it has been identified. The mouth of the latter has a considerable resemblance to that of *Barbus tor*, but the shape of the opercular bones at once distinguishes it from that species.

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Record of the Khairpur Meteorite of 23rd Sept. 1873.—*By* H. B. Medlicott, Esq., *Officiating Superintendent of the Geological Survey of India.*

[Received July 1st, 1874.]

At the meeting of January of this year several fine specimens were exhibited of a meteorite that had fallen on the 23rd September, 1873, partly in the State of Bhawalpur and partly in the Multan district, on either side of the Sutlej. The largest pieces and the greatest number fell close about the village of Khairpur, 72° 12′ E. long., 29° 56′ N. lat., 36 miles east-north-east of Bhawalpur. It has hence been called the Khairpur Meteorite, though the name seems to be a very common one throughout this region of the Punjab. As we are not likely to obtain any more information on the subject, what has been received may be recorded. It is not as exact as could be desired, but as much so as can usually be attained without special inquiry on the spot.

The position of the known falls have been recorded on maps, received from Major Minchin, Political Agent for Bhawalpur, and from Captain Lang, Deputy Commissioner for the Multan district. The number of stones that fell about Khairpur is not mentioned. Five are accounted for, but from the terms of the forwarding letters it may be inferred that others were procured. On the Multan side, Captain Lang mentions the finding of 7 pieces, 4 at different spots near Gogewala well, close to E. S. E. of Mahomed Moorut; two at Khurampur on right bank of the Sutlej, and one at Araoli two miles to N. W. of Khurampur. Of these one only is in known hands.

It was received from Col. Ralph Young, R. E., Commissioner of Multan, as having fallen near Mylsi, which is 12 miles from the nearest of the above named places; but the stone is probably one of those seven. The range thus covered by the fall has a marked lineal direction, bearing 35° S. of E., N. of W., with a length of sixteen miles and a breadth of about three.

List of Specimens.

		lbs.	oz.	gr.
A	Lahore Museum, weight, ...	10	12	126
B	Indian Museum, ...	9	11	219
C	„ „	7	14	236
D	Geological Museum, ...	1	2	412
E	„ „		3	79
F	„ „		6	70
	Total ..	30	2	266

The five first fell at Khairpur. In the letters forwarding B and C, and D and E, separately, it is said "These stones were taken from several pieces that fell in the neighbourhood of Khairpur:" and that they were "found imbedded in the earth at a depth of about 1½ feet at various places, about a mile and a half from Khairpur to the eastward, and about a mile apart." F is the one from the Mylsi Pergunnah.

All are very irregular in shape, and more or less broken. Some of these fractures are evidently done by hand, others probably at the moment of falling; while several seem to have occurred during the fall, the glazing being partially renewed. In two of the latter cases, the fracture forms a nearly plain surface.

Nothing exceptional is apparent in the composition of this Meteorite; it is a stone of the usual steel gray colour, and dense crypto-crystalline texture.

The specific gravity of F is 3.66.

Several accounts of the appearance of the fall are appended:

Note by the Rev. G. Yeates, *Church Missionary Society, Multan, received through* Major Minchin.

1. "On the morning of the 23rd of September, 1873, at 5.10 A. M., a meteor was observed from a spot about 12 miles south of Multan, in the Punjab (Lat 29° 20′ East, Long. 71° 40′ or nearly so).

"The observer was on the ground in the middle of a wide plain with nothing to obstruct the view. The morning was remarkably fine and clear, the sky unclouded, there was a faint glow of light in the East, but the sun was still about 45 minutes below the horizon.

2. "It is difficult to estimate the size of the meteor, as it was more a cluster of meteors, each one far exceeding the size and brightness of a star of the first magnitude, than a 'fireball.' The breadth of the train left behind them must have been from 8° to 5°. Venus was at the time about 25° above the horizon and very bright, but she was thrown quite in the shade when compared with the brightness of the meteor.

"Its first appearance in the west, towards which the observer's face happened to be turned, was so like a rocket which had reached its height and was just bursting, that the first impression was that some one in a distant village was amusing himself, at that early hour, with one that had remained over from a last night's display: but this idea was speedily dispelled, as, instead of dying out, it rapidly increased in brightness and continued to move on towards the observer, leaving a tail or train behind it. Its motion was not very rapid but steady, and by the time it had reached about 10° of the meridian, which it passed south of zenith, it assumed an exceedingly brilliant appearance, the larger fragments glowing with an intense white light with perhaps a shade of green, taking the lead in a cluster, surrounded and followed by a great number of smaller ones, each drawing a train after it, which blending together formed a broad belt brilliant fiery red. At this time it lit up the whole country, casting deep shadows and having the effect produced by the electric light. In this way it proceeded until it reached a point nearly due east, paling again a little as it drew near the horizon, when, about 20° above it, it appeared to go out, rather than to fall.

"The train it left continued very bright for some time and was distinctly traceable for more than three quarters of an hour afterwards; at first changing to a dull red, then, as the morning broke, to a line of silvery gray clouds which broke up into separate portions and floated away on the wind.

3. "From the rough diagram attached, it will be noticed that the course of the meteor was unusually long, extending through very nearly 180°, its first appearance, as sketched, was as near as possible in a spot close to the star Algenib, which was just faintly visible, about 15° above the horizon in the west. It then passed close under Orion, the lowest star of which (Rigel) was very near if not on the meridian, and disappeared on the other, east side, about the same height from the horizon as it was noticed at, in the beginning of its course.

"For some time after the meteor had disappeared, but while the train still continued to attract notice, there was perfect stillness which was interrupted by a loud report followed by a long reverberation which gradually died away like the roll of distant thunder.

"The report seemed to come from the south, in which direction there was a tope of Pepuls, about quarter of a mile off, but one man, who was a

witness of it, said it seemed to him to come from the north, as he said the artillery were practising in Multan. The time that elapsed between the bursting of the meteor, when first noticed, and the report was about four minutes."

Mr. Yeates describes the meteor in the meridian as attaining an altitude of 50° from his point of view, which seems to be about 30-40 miles from the projected path of the meteor, and about 50 miles from Khairpur in the direction of the major axis of the area covered by the fall.

The following observations are extracted from a letter of Major Minchin's.

"I was in camp at a place about 6 miles from Ooch and 50 miles from Bhawalpur at the time, and was roused from sleep by a brilliant light followed by a loud thunderclap. The next day we heard from Bhawalpur that the explosion of the meteorite was so violent as to shake the house and slam all the doors; and in the course of a few days the Tuhsildar of Khairpur sent me in 3 meteoric stones, 2 of which were forwarded to you and one to the museum at Lahore, which he reported had fallen at places about a mile apart and about a mile beyond Khairpur, which is 36 miles east of Bhawalpur.

"One of the meteorites fell close to a man who had gone out into the jungle for the purpose of nature, and frightened him so much, that he hardly knew what occurred and was under the impression that the stone pursued him for two hours; but he shewed the spot where it fell which was the first piece found. I have had the spot marked approximately in the map you sent, and which is herewith returned, some portions fell in the Mylsi district on the right bank of the Sutlej.

"At Bhawulgur in this State, 80 miles from Khairpur, the meteor was seen but no explosion was heard; and I have been informed that it was seen at Bunnoo and Kohat on the frontier and also from the Terar hills above Peshawur.

"A correspondent in the *Pioneer* mentioned having seen it at Jodhpur, and Mr. W. Beckett saw it near Moradabad on his way from Nynee Tal. Stating it roughly, the meteorite would appear to have been visible within a radius of 300 miles of Khairpur."

The following observations are taken from the *Pioneer* newspaper, of the 30th September.

"*Multan, 24th Sept.*

"Sir,—The appearance of an extraordinary meteor, of which I daresay you will have notice from other quarters, may justify my venturing to describe it as seen from the neighbourhood of Multan, and under very favourable circumstances.

"Duty called me to be on the Shujabad road, about 13 miles south of Multan, on the morning of the 23rd instant. I had stopped for the night in one of the rest-houses, and rose early to continue my journey southward. While my man was getting the dog-cart ready, I walked on enjoying the fresh breeze which was from the south, and after a long and wearisome hot season was most grateful and reviving. I had gone on about half a mile and the cart had just come up to me when, as I turned my face full to the west, crossing over the road from the east, a brilliant star made its appearance right opposite me, about 15 degrees above the horizon. It moved on slantingly upwards and towards us, bursting almost immediately as a rocket, but without scattering to any extent, all the fragments or stars keeping close together, and marching on its way steadily but slowly across the whole heavens, crossing the meridian about 60° from the horizon close under the constellation Orion which was close to the meridian at the time, and proceeding on to a point in the east nearly exactly opposite to that at which it first appeared.

"From its first appearance it increased rapidly in brightness, and long before it had got half way, lit up the whole country with a greenish light, not unlike the effect of the electric light. The different fragments into which it broke up were distinctly visible, more than twenty of them I should say, all of a brilliant palish green, moving in parallel courses, two or three of the larger ones taking the lead in the centre, and each of them leaving a tail of red light behind it; these tails blending into one formed a huge band of light from one end of the heaven to the other.

"From the moment it shone out brilliantly we all stood, spell-bound, in perfect silence, the more marked in the dead stillness of the morning, and as it died out we stood watching the wonderful path it had trod. The effect was most thrilling, when silence was first broken by the *Ya Allah* of one of the servants. We still remained motionless, expecting nothing further, when a loud report, as of a number of cannon in the distance, shook the very ground under us, reverberation rolling on for a considerable time and dying away at length like distant thunder. Unfortunately, I had no watch about me at the time, nor indeed, had I, should I have thought of looking at it, to count the minutes between the explosion and the time its sound reached us, as I did not anticipate hearing it, but I should say, from experience in such things, that about three and half minutes must have elapsed. This, counting 1,100 feet per second, which is, I believe, the rate at which sound travels, would give about 45 miles as its distance at the time of its disruption. Its explosion must have taken place almost immediately after entering our atmosphere, through the denser part of which it must have passed. It had all the appearance of being very close: indeed for a moment the feeling was that it was coming unpleasantly so,

and contrasted remarkably with the dark background of the sky, which it did not illuminate.

"The train left behind remained very bright for some time and gradually faded. It was evidently affected by the wind, as it first broke up into a heavy irregular line, then into small detached clouds, which remained visible for upwards of an hour afterwards, and only disappeared when the brightness of the sun rendered them indistinct.

"This month has been very prolific in small meteors. I have noticed them in greater numbers than usual, but this one exceeds anything I have ever witnessed. On getting to Shujabad, 12 miles distant, I found that the noise had aroused many; some saw it, but it was difficult to judge from the description given whether it appeared more over-head or not. What I have heard of it here too, since my return, is too vague to form any opinion from. Perhaps other accounts of it may throw light on its extent, &c." G.

"*Bhawulpore State, 24th September.*

"Sir,—On the morning of 23rd September, at 5 A. M., the following phenomenon was observed on the Chenab left bank, some sixty miles south-west of Bhawulpore. A luminous globe suddenly appeared under a clear sky, which lighted up the earth, in the full blaze of sun-light. The electric globe shot across towards the north-east over about sixty degrees of space, and seemingly was not more than a few hundred yards above the earth, when it disappeared in a shower of shooting stars. But six or seven minutes must have elapsed before the sound of its explosion was heard, which was a double detonation like the discharge of two heavy pieces of artillery close together, followed by loud and prolonged reverberation. Then all was still. The sun rose and the morning was fresh and the breeze cooler than usual at this time of year, giving the idea to the observers who were bound for the "Happy Hunting Grounds," that the blazing phenomenon had cleared the atmosphere in a remarkable manner. According to the lapse of time above noted, between the disappearance of the fire globe and the sound of its explosion, its fragments may have struck the earth from 77 to 91 miles off, somewhere between the Chenab and Sutlej rivers.

SHIKAREE."

These few and superficial data are recorded for the information of experts in the phenomena of meteorites. This fall seems specially remarkable for the very oblique direction of its course to the earth's surface.

Contributions towards a knowledge of the Burmese Flora.—*Part I.*—*By* S. Kurz.

[Received May 25th, read August 5th, 1874.]

In the present paper I purpose giving an abridged enumeration of Burmese plants, phanerogamic and cryptogamic, as far as they have come to my knowledge. The Burmese Empire is as yet too incompletely explored for the present communication to be looked upon otherwise than in the light of an attempt at collating the scattered material either published or deposited in Herbaria. An exploration of Ava, the Arracan Yomah and the Chittagong hills, will furnish large additions of Khasya hill plants, while the Tenasserim and Martaban hills abound in Malayan forms.

A bare list would have been of little use to the Indian botanist and still less so to the resident in Burma; I have, therefore, given short outlines of the distinctive characters of the genera as well as of the species. Such conspectuses are not always based upon sound characters, which in many cases can only be ascertained by a close examination of all the species composing the several genera; but still they will be found serviceable for handy identification of the plants of the better explored provinces of Burma. In the framing of the generic tables, I have chiefly followed the authors of the 'Genera Plantarum.' Of citations I have given only a selection, giving preference to illustrations. The remaining synonyms or references to synonyms may be found in Hooker's Flora of British India so far as that work has been published.

I have avoided as much as possible critical discussions, and have taken in hand only essential matters: to have done otherwise would only have increased the bulk of my contributions without materially assisting in the encouragement of the exploration of the Burmese Flora; for which purpose this enumeration is written.

I have also given further particulars about the habitats of the species and notices about frequency. Such are necessarily understood to refer only to provinces wherein I have myself travelled (Andamans, Pegu, Prome, Martaban and partially Arracan and Chittagong): information regarding the rest had to be compiled from herbarium-material. Flowering and fruiting time are given, but cannot always be relied upon, for the reason that contradictory dates are sometimes given by collectors.

I wished to have introduced here the soil question from an Indian point of view, but defer doing so until my experiences in this direction are more matured and have been verified by future explorations. In Burma my attention was directed more towards the woody vegetation, and the necessary information as regards this will be given elsewhere. Herbaceous

growth is for the greater part more regulated by physical and climatal factors, which in connection with moisture, the most powerful element in nature, bring about the greatest changes in vegetation. But still not an inconsiderable number of herbs are found in Burma and elsewhere in India which belong to Unger's class of *soil-steady* (bodenstaetig): such are especially many limestone and laterite plants, and, everywhere, the saline ones. The indication of the forests, etc., in which they grow will, however, at once give a more or less reliable key to the soil-requirements; the forests being more dependent upon the substratum than the herbaceous growth.

I have purposely selected for the different varieties of Burmese forests general denominations instead of naming them after characteristic trees, as is usually done. The sorts of forests or combinations of forest trees as distinguished by me are, so to say, the exponents of a complex of climatal physical and partially chemical influences which produce everywhere habitually and generically identical or representative equivalents. Thus we have sal-forests in India and eng-forests in Burma; dry forests in Behar and Northern Hindostan and again in the Prome district; mixed forests in the low Terai lands of the Himalaya and savannah forests in the Bengal Gangetic alluvium as well as in Burma; and so it is with the tidal forests, hill-forests, etc.

The distinction between *evergreen* and *deciduous* forests must always be the leading one in tropical countries, and such forests differ always most conspicuously in their vegetative components.

The former are divided into the littoral forests (tidal and mangrove), the result of saline influence; further into swamp-forests, the product of superabundance of fresh-water and heavy inundations during rains. Then come the tropical forests, which are more regulated by moisture and amount of shade than by substratum, although great differences (not so much habitually as specifically) are observable in those that grow on permeable or on half-permeable strata, on silicious sandstones or on metamorphic or permeable laterites, the latter rich in purely Malayan types, the former poorest of all (with those growing on limestone in Tenasserim I am not acquainted). The last sort of evergreen forests are the hill-forests, rather confusedly huddled together by me, but sufficiently distinguished for present requirements. The lower damper ones of these are a modification of the tropical forests below them, while the drier ones consist chiefly of pines, oaks, *Ericineæ*, etc., and pass soon into the temperate forests, which contain a great number of winter-deciduous trees but are not represented in Burma except on a few peaks above 6500-7000 feet elevation. Here the slope and resultant amount of light and moisture, and not so much the quality of rock, are the principal regulators, at least so it is on the metamorphic and older formation, while limestone, etc., will form exceptions. Higher up the in-

fluence of elevation modifies and changes vegetation according to well-known laws.

The leaf-shedding or deciduous forests form the other large class of Indian forests, and cover in these regions a greater area than the former. These grow either on impermeable strata, such as compact calcareous sandstones, and form then the "dry forests," where catechu trees and several Hindustani trees and arboreous *Euphorbias* find their home, while higher up on the crests of the Yomah they become formed almost exclusively of an arboreous *Hiptage*, often accompanied by several rather temperate forms like *Heracleum*, *Vaccinium*, *Hymenopogon*, etc. On laterite and gravelly strata, and also on very stiff plastic clay, grows another variety of forest, called by me the open forests. Those growing on the first named strata are especially interesting and are generally known to the Burmans as the eng or ein-forests, so named after the prevailing tree, *Dipterocarpus tuberculatus*; here the botanical rarities of Burma are scattered, and catch the eye the more readily that the surrounding forest is open and the soil-clothing rather scanty; higher up in the hill-eng forests, (which grow on laterite formed by decomposition of older rocks or on debris of them) the eng-tree is often replaced by other kinds of wood-oil trees (chiefly *Dipterocarpus costatus* and *obtusifolius*); while those open forests that occupy the stiff clay at the base of the hills are characterized by the absence of eng.

The last variety of deciduous forests are the mixed forests (as they are called by the forester), in which teak is chiefly found almost always accompanied by pyenkadu (*Xylia*). The upper ones grow either on permeable siliceous argillaceous sandstone, as is the case on the Pegu Yomah, and the trees are then usually very lofty, or on metamorphic and other older strata in Martaban, and in this case they are richer in species but lower in growth, often accompanied by trees which are very rare in the Yomah, such as *Pterocarpus*, *Ternstroemiaceae*, etc. The lower mixed forests occupy the alluvial lands of the greater rivers and gradually pass into the savannah-forests and the true savannahs. Along the larger choungs in the hills where alluvial deposits spread out to a larger extent, similar savannah-forests recur on a smaller scale, but much better grown, and, especially by favourable exposure, much mixed up with trees that are missed in the plains, such as *Erythrina lithosperma*, *Bischoffia Javanica*, etc.

Such is a bird's-eye view of the Burmese forests, of which I have given a more detailed description in my report on the Pegu-forests, and I hope that these cursory notes may in the mean time aid in the understanding of the habitats of the species given in the following pages.

The area comprised by me under the general denomination of Burma is not the political one but includes Ava, Chittagong as far as the Fenny

river, Arracan, Pegu, Martaban (all the country between the Sittang and Salween is thus named by me), Tenasserim and the Andaman islands.

The collections which were at my disposal when working up the Burmese plants are as follows:

1. The large collections of Dr. Wallich and Dr. Brandis. Many of Wallich's Numbers are not contained in the Herbarium of the Botanical Gardens Calcutta, of others only fragments. The latter often proved very useful in the identification of plants collected by myself or others, but were only too often unfit for description in the absence of corresponding specimens collected by others. I experienced therefore much difficulty in dealing with such, especially as the greater part of Wallich's plants are not included in the earlier parts of DeCandolle's Prodromus, etc.

2. Drs. Griffith's and Helfer's sets of Burmese plants sent out from Kew. Of the former's collection a set retained by Dr. McClelland to aid in the editing of Griffith's posthumous papers, is still in the Herbarium here and served partially to supplement the incompleteness of the material.

3. Dr. Falconer's Tenasserim collections in the Calcutta herbarium.

4. Mr. Robert Scott's, the Rev. C. Parish's and Rev. Dr. F. Mason's plants, in the Calcutta herbarium, which, especially those of the latter two gentlemen, abound in novelties.

5. Drs. Hooker's and Thomson's Chittagong plants, and also a few plants of the same regions collected by Mr. C. B. Clarke. Only a small collection was made by myself during a very brief stay in 1869.

6. Dr. John Anderson's collections. Of these only the Burmese plants and those collected in the Kakhyen Hills are included here.

7. The collections I myself made in 1867-68, and again in 1870-71, all over Pegu, Prome and part of Martaban.

8. Arracan-plants, chiefly collected by myself and Dr. Schlich. A small collection by Captain Margrave from the same province is contained in the Calcutta herbarium.

9. Dr. Stoliczka and Mr. Theobald, of the Geological Survey of India, both presented to me small collections of Tenasserim plants, containing several new or interesting forms. To this must be added a collection of grasses and other plants, collected in the Prome district by Mr. Eug. Oates, C. E., and a few plants which Mrs. Mason brought home from the Red Karen country.

10. Smaller collections and single plants from various parts of Burma are contained in the Calcutta herbarium, collected by Mrs. Burney, Col. Eyre, Th. Lobb, Dr. McClelland, Belanger, Reynoud, Dr. Cleghorn, O'Riley, Th. Phillippi and others.

11. Dr. Roxburgh's Flora contains numerous contributions to the

Burmese Flora and some of them are still under cultivation in the Botanical garden here.

12. The collections made by myself in 1866 on the Andamans. Dr. Helfer's collections from the same islands were unfortunately mixed up with his Tenasserim plants. In order to avoid as much as possible the introduction of such doubtful stations, I have preferred to look upon such plants invariably as derived from Tenasserim or from the Andamans respectively, in all cases where specimens of the one or other regions already existed in the herbarium here.

13. A collection of plants made by the garden-collectors on various islands of the Andaman and Nicobar islands during Mr. A. O. Hume's ornithological cruise in 1873.

I. DICOTYLEDONS.

RANUNCULACEÆ.

Conspectus of genera.

I. *CLEMATIDEÆ.* Sepals valvate. Carpels indehiscent, with a solitary ovule or seed in each. Leaves opposite. Usually woody climbers.

1. CLEMATIS. No petals, or if any, these gradually pass into stamens Leaves without tendrils.

2. NARAVELIA. Petals terete, abruptly divided from the stamens. Leaves 2-foliolate.

II. *RANUNCULEÆ.* Sepals imbricate. Carpels with a solitary ascending ovule or seed in each. Achens indehiscent. Herbs or perennials.

3. RANUNCULUS. Sepals deciduous. Petals 3 or more.

III. *HELLEBOREÆ.* Sepals imbricate. Petals small, deformed, or sometimes none. Carpels many-seeded, dehiscent. Usually herbs.

4. NIGELLA. Petals small, or clawed, never spurred. Carpels more or less connate.

Clematis, L.

Conspectus of species.

Sect. 1 *Viticella:* Achens simply beaked, without plumose tails. ... *C. bracteata.*
Sect. 2. *Flammula:* Achens terminating in a plumose tail.
Leaves simple, ... *C. smilacifolia.*
Leaves divided.
Anthers terminating in a subulate appendage,..... *C. hedysarifolia.*
Anthers blunt, retuse or acute.
× Filaments glabrous.
Leaflets serrate, glabrous, shining; flowers small, ... *C. Gouriana.*
Leaflets entire, tomentose; flowers small,..... *C. subumbellata.*
× × Filaments hairy (at least towards the base).
Leaflets shining, glabrous; flowers small,..... *C. acuminata.*
Leaflets tomentose or pubescent; flowers large, ... *C. Buchananiana.*

1. C. BRACTEATA (*Thalictrum bracteatum*, Roxb., Fl. Ind., II, 671; *C. Cadmia*, Ham. ap. Hf. Fl. Ind. I, 5.)

HAB. Ava, Bhamo. Fl. Jan.

2. C. SMILACIFOLIA, Wall. in Asiat. Res., XIII, 414; Hf. Ind. Fl. I. 3; Bot. Mag. t. 4259.— (*C. subpeltata*, Wall. Pl. Asiat. rar. t. 20; *C. Munroana*, Wight Ill. t. 1; *C. inversa*, Griff. Not. Dicot. 700 t. 645, f. 7 ?)

HAB. Ava, on Taong-dong; Tenasserim, Mergui.

3. C. HEDYSARIFOLIA, DC. Syst. I, 148; Hf. Ind. Fl. I. 4.

HAB. Pegu (Hore).

4. C. GOURIANA, Roxb. Fl. Ind. II. 670; Wight Ic. t. 933 and 934; Hf. Ind. Fl. I. 4.

HAB. Ava, on Taong-dong. (Wall.); Tenasserim, (C. Parish).

5. C. SUBUMBELLATA, Kurz in Journ. As. Soc. Bengal, XXXIX, 61.— (*C. floribunda*, Kurz in Seem. Journ. Bot. V. 540, non Pl. et Trian).

HAB. Martaban, Karen hills (O'Riley).

6. C. ACUMINATA, DC. Syst. I. 148; Hf. Ind. Fl. I. 5.

HAB. Martaban, in the damp hill-forests E. of Toungoo, at 3000 to 4000 ft. elevation. Fr. March.

7. C. BUCHANANIANA, DC. Syst. I. 140; Hf. Ind. Fl. I. 6. var. *rugosa*, Hf. and Th. l. c.

HAB. Martaban, Karen hills (Rev. F. Mason, O'Riley).

Doubtful species.

1. C. GROSSA, Wall. Cat. 4671; Hf. and Th. Fl. Ind. I. 12.—Ava. Tong-dong (Wall.)

Naravelia, DC.

Conspectus of species.

Leaflets tomentose or pubescent beneath, ... *N. Zeylanica.*
Leaflets quite glabrous, ... *N. laurifolia.*

1. N. ZEYLANICA, DC. Syst. I. 167; Hf. Ind. Fl. I. 7.—(*Atragene Zeylanica*, L. Amoen, I. 405; Roxb. Corom. Pl. II. t. 188, and Fl. Ind. II. 670; *N. dasyoneura*, Korth. in Ned. Kruidk. Arch. I. 208; Miq. Fl. Ind. I/2. 2).

HAB. Frequent in the mixed and dry forests all over Pegu and Prome; also in Ava. Fl. H. S. Fr. C. S,

2. N. LAURIFOLIA, Wall. Cat. 4685; Hf. Ind. Fl. I. 7.

HAB. Not unfrequent in the tropical forests of Martaban; also Tenasserim, Mergui (Griff.) Fl. Fr. Febr. March.

Ranunculus, L.

Conspectus of species.

A spreading creeping pubescent perennial, ... *R. diffusus.*
An erect glabrous somewhat succulent annual, ... *R. sceleratus.*

1. R. DIFFUSUS, DC. Prod. I. 38; Hf. Ind. Fl. I. 19. (*R. subpinnatus* W. A.; Wight Jc. t. 49; *R. vestitus*, Wall. Cat. 4707).

HAB. Ava, Taong dong (Wall.), Khakyen hills, E. of Bhamo (J. Anderson). Fl. Fr. March.

2. R. SCELERATUS, L. sp. pl. 776; Engl. Bot. t. 681; Hf. Ind. Fl. I. 19. (*R. Indicus*, Roxb. Fl. Ind. II. 671).

HAB. On moist mud-banks of the Irrawaddi from Prome District down to Pegu (at Henzadah.) Fl. Fr. Febr.-Apr.

Nigella, L.

* NIGELLA SATIVA, L. sp. pl. 753; DC. Prod. I. 49; Walp. Rep. II. 742. var. INDICA, DC. l. c. (*N. Indica*, Roxb. Fl. Ind. II. 646).

HAB. Burmah, cult. according to Dr. Mason (never seen by me).

DILLENIACEÆ.

Conspectus of genera.

I. *DELIMEÆ.* Filaments more or less dilated at apex; anthers short, the cells diverging, or rarely parallel. Woody climbers.

1. DELIMA. Carpels solitary: ovules 2-3, basilar.
2. TETRACERA. Carpels 3-5, ovules many, in 2 series.

II. *DILLENIEÆ.* Filaments equal; anther-cells parallel. Trees or herbs.

3. DILLENIA. Carpels 5-20. Seeds without arillus. Trees.
4. ACROTREMA. Carpels 3. Stemless herbs with radical leaves.

Delima, L.

1. D. SARMENTOSA. L. sp. pl. 736; Bot. Mag. t. 3058; Hf. Ind. Fl. I. 31.—(*Tetracera sarmentosa*, Vahl Symb. III. 70, Roxb. Fl. Ind. II. 645). Var. HEBECARPA, Hf. and Th. Fl. Ind. I. 61.

HAB. Not unfrequent in the mixed forests all over Burma, from Chittagong and Ava down to Aracan and the Andamans.

Tetracera, L.

1. T. ASSA, DC. Syst. I. 402; Hf. Ind. Fl. I. 31. (*T. trigyna*, Roxb. Fl. Ind. II. 645).

HAB. Chittagong (Hf. and Th.).

Another species with large leaves of a thin texture, when fullgrown quite glabrous, is not unfrequent in the swamp-forests of the Irrawaddi alluvium in Pegu. It is no doubt a new species but, unfortunately, I could obtain neither flowers nor fruits.

Acrotrema, Jack.

1. A. COSTATUM, Jack in Mal. Misc. ex Hook. Bot. Misc. II. 82; Hf. Ind. Fl. I. 32. (*A. Wightianum*, WA; Wight Jc. t. 9).

HAB. Tenasserim, Moulmein.

Dillenia, L.

Conspectus of species.

Sect. 1. *Eudillenia.* Petals white. Seeds with hairy borders, flowers very large, *D. Indica.*

Sect. 2. *Colbertia.* Seeds smooth. Flowers yellow.

* Calyx tomentose or pubescent.

O Flowers very large (petals about 2 in. long).

Peduncles 1½ to 2 in. long, straight; styles 12; petioles about 1 in. long. *D. pulcherrima.*

Peduncles 4-8 lin. long, thick and nodding; styles 10; petioles up to ½ in. long, *D. aurea.*

Peduncles very long and slender; styles 6; petioles only 2 to 1 lin. long, ... *D. pilosa.*

O O Flowers small (petals less than an in. long).

Peduncles 1 or 2-bracted, like the calyx densely tomentose; styles 5-7, ... *D. parviflora.*

* * Calyx and peduncles perfectly smooth or pruinous. Flowers small.

Peduncles bracted,..... *D. scabrella.*

Peduncles without bracts, ... *D. pentagyna.*

1. D. INDICA, L. sp. pl. 745; Hf. Ind. Fl. I. 200. (*D. speciosa*, Thbg. in Linn. Trans. I. 200; Wight Jc. t. 823; Roxb. Fl. Ind. II. 650; Bot. Mag. t. 5016; *D. elongata*, Miq. Suppl. Fl. Sumatr ...)

HAB. Not unfrequent along choungs in moister upper mixed forests of the Pegu Yomah on sandstone; also in Martaban, Tenasserim and Chittagong, on metamorphic rocks. Fl. Fr. Febr. March.

2. D. AUREA, Sm. Exot. Bot. II. t. 92 93 ?; Ham. in Linn. Trans. xv. 101. *D. ornata*, Wall. Pl. As. rar. I, 20, t. 23; *D. speciosa*, Griff. Not. Dicot. 703, t. 649, f. 3.).

HAB. Frequent in the drier hill-forests of Martaban and entering the pine-forests up to 4000′ ft. elevation; also in tropical forests of Tenasserim, up to 3000 ft. elevation. Fl. March, Apr.

3. D. PULCHERRIMA, Kurz in Journ. As. Soc. Bengal, 1871, 46; Hf. Ind. Fl. I. 37.

HAB. Common in the open forests, chiefly in the Eng-forests of Pegu and Martaban. Fl. H. S.; Fr. Begin of R. S.

4. D. PARVIFLORA, Griff. Not. Diot. 70; Hf. Ind. Fl. I. 38.

HAB. Frequent in the mixed forests of Pegu, Martaban and Tenasserim Fl. H. S.; Fr. Begin of R. S.

5. D. PILOSA, Roxb. Fl. Ind. II. 652, non Ham.; Kurz in Journ. As. Soc. Bengal 1872, 292.

HAB. Frequent in the upper mixed forests of the Andamans. Fl. H. S.; Fr. Begin of R. S.

6. D. SCABRELLA, Roxb. Fl. Ind. II. 643; Wall. Pl. as. rar. I. 20, t. 22; Hf. Ind. Fl. I. 38.

HAB. Chittagong (Roxb.). Fl. H. S., Fr. Begin of R. S.

7. D. PENTAGYNA, Roxb. Corom. Pl. I, t. 20, and Fl. Ind. II. 652; Hf. Ind. Fl. I. 38. Var. β. AUGUSTA (*D. augusta*, Roxb. Fl. Ind. II. 652; *D. floribunda*, Hf. and Th. Fl. Ind. I. 71).

HAB. Frequent in the mixed forests, especially the upper ones of Pegu and Martaban down to Tenasserim. Fl. H. S.; Fr. Begin of R. S.

The smaller leaved and longer petioled var. *a.*, frequent in India, seems not to occur in Burmah.

MAGNOLIACEÆ.

Conspectus of genera.

I. *WINTEREÆ.* Stipules none. Perianth double. Carpels in a single whorl.

1. ILLICIUM. Only genus. Trees or shrubs.

II. *MAGNOLIEÆ.* Stipules conspicuous, convolute and sheathing the young foliage, deciduous.

* Ovary sessile.

2. TALAUMA. Carpels of fruit indehiscent, deciduous.

3. MAGNOLIA. Carpels of fruit dorsally dehiscing. Ovules 2.

4. MANGLIETIA. Carpels of fruit dorsally dehiscing. Ovules 6 or more.

* * Ovary stalked.

5. MICHELIA. Only genus.

Illicium. L.

1. J. MAJUS, Hf. et Th. Ind. Fl. I. 40.

HAB. Tenasserim, Thounggyeen range, at 5500 ft. elevation (Lobb).

Talauma, Juss.

Conspectus of species.

Leaves glabrous; fruits 4-6 in. long,..... *T. liliifera.*
Leaves usually pilose or downy beneath; fruits 2 in. long,..... *T. Candollei.*

1. T. LILIIFERA, (*Liriodendron liliiflora*, Roxb. Fl. Ind. II. 654; *T. Rabaniana*, Hf. and Th. Fl. Ind. I. 75, and Ind. Fl. I, 40).

HAB. Tenasserim, Mergui (Griff.). (According to Hf. and Th. first ed. of Fl. Ind.)

2. T. CANDOLLEI, Bl. Verh. Bat. Genotsch. I. 147; Miq. Fl. Ind. Bat. I/2 14. *T. mutabilis*, Bl. Fl. Jav. Magnol. 35. t. 10-12 B.; Hf. Ind. Fl. I. 40).

HAB. Tenasserim, Moulmein (Lobb).

Magnolia, L.

1. M. SPHENOCARPA, Roxb. Corom. Pl III. t. 266; Hf. Ind. Fl. I. 41. (*Liriodendron grandiflorum*, Roxb. Fl. Ind. II. 65).

HAB. Chittagong; Pegu (Brandis).

Manglietia, Bl.

1. M. INSIGNIS, Bl. Fl. Jav. Magnol. 23; Hf. Ind. Fl. I. 42. (*Magnolia insignis*, Wall. Tent. Fl. Nap. t. 1, and Pl. as. rar. II. t. 182).

HAB. Pegu (Brandis).

Michelia, L.

1. M. CHAMPACA, L. sp. pl. 756; Roxb. Fl. Ind. II. 656; Bl. Fl. Jav. Magn. 9, t. 1; Griff. Not. Dicot. 715; Hf. Ind. Fl. I, 42. (*Michelia aurantiaca*, Wall. Pl. as. rar. II. t. 147).

HAB. Rather rare in the tropical forests of Martaban and Tenasserim also Pegu, above Rangoon (on laterite); Ava, Bhamo; Prome hills (Wall.). Fl. Fr. R. S.

ANONACEÆ.

Conspectus of genera.

I. *UVARIEÆ.* Petals in 2 rows, one or both rows imbricate in the bud. Stamens many, closely packed.

1. BOCAGEA. Sepals small, imbricated in the bud. Torus flat. Carpels 3 to 6.

2. UVARIA. Sepals valvate. Flowers bisexual; ovules 1 or 2 or many; torus almost flat. Climbers.

II. *UNONIEÆ.* Petals valvate in the bud, more or less spreading, somewhat unequal, or those of the inner row small or wanting, not or little narrowed at base.

* Petals spreading from the base.

× Ovules many, ventral.

3. ALPHONSEA. Petals nearly equal. Stamens 6 or more, loosely imbricated, with dorsal anthers.

4. CANANGA. Petals open, elongate. Stamens indefinite, closely packed, ovate-acute at the top. Ovules in 2 rows.

5. CYATHOSTEMMA. Petals broad-ovate. Stamens indefinite, the connective obliquely incurved. Ovules many, in 2 rows.

6. UNONA. Petals open, usually elongated. Stamens indefinite closely packed, capitate or truncate at the top. Ovules in a single row. Ripe carpels usually moniliform.

× × Ovules 1 or 2, erect.

7. POLYALTHIA. Petals opened, rather thick. Berries indehiscent.

8. ANAXAGOREA. Petals opened, rather thick. Carpels follicle-like, dehiscent.

* * Petals enclosing the sexual organs with a concave or connivent base, free towards the summit.

9. CYATHOCALYX. Calyx 3-toothed. Petals connivent at base. Carpels solitary. Ovules many.

III. *XYLOPIEÆ.* Petals valvate, connivent or hardly open, those of the outer row usually thick, not narrowed at base, and enclosing the 3 inner, smaller or minute ones, or the latter wanting.

* Ovules solitary.

10. ANONA. Outer petals concave, often broad. Berries united into a many-celled syncarp.

* * Ovules 2 or more.

11. XYLOPIA. Petals triquetrous, connivent, narrowed. Anthers truncate. Torus hollow. Stigmas elongate.

12. ARTABOTRYS. Petals terete, triquetrous or flat, concave at the base and enclosing the sexual organs, the tips spreading. Anthers truncate. Torus hollow. Peduncles usually hooked.

Trib. IV. MITREPHOREÆ. Petals valvate, the outer ones open, the inner ones erect, connivent or connate at their tips and often claw-like narrowed at the base.

* Petals of the inner row shorter or equally long.

× Petals not narrowed at the base, or the claw-like base broad.

13. OXYMITRA. Inner petals connivent, not or almost not narrowed at base. Ovules 2, erect. Seeds not angular.

14. GONIOTHALAMUS. Inner petals connivent, narrowed in a broad claw. Ovules 2, erect.

15. MELODORUM. Petals thick coriaceous, the inner ones shorter, triquetrous at summit and hollowed at base on the inner side.

× × Petals narrowed into curved not angular free slender claws, the laminæ cohering in a sort of mitre.

16. MITREPHORA. Stamens numerous. Ovules many, in 2 rows. Flowers usually rather conspicuous, sometimes dioecious.

17. OROPHEA. Stamens definite, 6, 9, or 12. Ovules 2-4. Flowers usually very small.

* * Sepals and the 3 outer petals usually conform or nearly so, minute, resembling a calyx. Inner petals large, erect-connivent, often saccate or concave at base.

18. PHÆANTHUS. Inner petals flat, rather thick. Ovules 1 or 2. Anther-cells concealed by the overlapping connectives.

19. MILIUSA. Inner petals flat. Ovules 2 or more. Anther-cells not concealed.

Bocagea, St. Hil.

1. B. ELLIPTICA, Hf. and Th. in Ind. Fl. I. 92.

HAB. Tenasserim, Tavoy (Wall.).

Uvaria, L.

Conspectus of species.

Subg. 1. *Ellipeia.* Ovules solitary or by pairs. Usually erect shrubs.

A little erect shrub; berries elliptical or nearly so, very small, glabrous, sessile, *U. ferruginea.*

Subg. 2. *Eu-uvaria.* Ovules usually numerous, rarely few. Climbing shrubs.

§ Flowers large or middling sized, the connective terminating in a large almost leafy appendage.

O Carpels on long stalks.

Flowers solitary; carpels and all other parts shortly tomentose, ... *U. purpurea.*

All parts hirsute; usually solitary; carpels tawny hirsute, ... *U. hirsuta.*

Flowers by 2 or 3 on a peduncle; carpels tubercled and stellately hispid-tomentose; all parts puberulous, ... *U. ptychocalyx.*

O O Carpels sessile or very shortly stalked.

Peduncles 3-to 6-flowered; carpels glabrous,... *U. macrophylla.*

Peduncles 1-to 2-flowered; carpels tomentose, ... *U. bracteata.*

§ § Flowers minute. Stamens truncate, the connective hardly produced beyond the anther-cells.

Berries on long slender stalks, glabrous,..... *U. micrantha.*

1. U. FERRUGINEA, Ham. ap. Hf. and Th. Fl. Ind. I. 96. (*Ellipeia ferruginea*, Hf. and Th. Ind. Fl. I, 52.)

Hab. Not uncommon in the Eng forests of Prome and Pegu, on laterite; also Tenasserim, Thoungyeen (Dr. Brandis). Fl. Apr.; Fr. Jan. Febr.

In this species the ovules vary in number (1 or 2). Hooker gives *Uv. dulcis*, Dun., as a Burmese plant, but I suspect it is referable to this species.

2. U. purpurea, Bl. Bydr. 11 and Fl. Jav. Anon. 13, t. 1 and 13 f. A; Hf. Ind. Fl. I. 47. (*Uvaria grandiflora* Roxb. Fl. Ind. II. 665, Wall. Pl. As. rar. III. t. 121).

Hab. Not uncommon in the tropical forests of Martaban; also Tenasserim.

3. U. hirsuta, Jack Mal. Misc.; Bl. Fl. Jav. Anon. 22, t. 5; Hf. Ind. Fl. I. 48. (*U. pilosa*, Roxb. Fl. Ind. II. 665; *U. trichomalla*, Bl. l. c. 42, t. 18).

Hab. Rare in the tropical forests of the E. slopes of the Pegu Yoma (Khaboung, Choungmenah valley).

I have only leaf-branches, but I can hardly be mistaken in identifying my specimens with Jack's Malayan species.

4. U. ptychocalyx, Miq. Ann. Mus. Lugd. Bat. II. 4; Hf. Ind. Fl. I. 49.

Hab. Not uncommon in tropical forests of the southern slopes of the Pegu Yomah; Tenasserim, Moulmein (Theobald). Fr. Dec. Jan.

5. U. macrophylla, Roxb. Fl. Ind. II. 663; Wall. Pl. As. rar. II. t. 122; Hf. Ind. Fl. I. 49 pp.; Bedd. Icon. Pl. Ind. or. t. 81.

Hab. Frequent in the mixed forests all over Burma from Chittagong and Ava down to Tenasserim. Fl. R. S.; Fr. Nov. Dec.

6. U. bracteata, Roxb. Fl. Ind. II. 660; Hf. Ind. Fl. I. 49.

Hab. Tenasserim (Wall.) Fl. May; Fr. Sept.

7. U. micrantha, Hf. and Th. Fl. Ind. I. 103 and Ind. Fl. I. 51. (*U. Sumatrana*, Kurz And. Rep. App. B. 1; Hf. Ind. Fl. I. 51).

Hab. Rather frequent in tropical forests of the Andamans; also Pegu (Brandis) and Upper-Tenasserim (Falconer). Fl. June.

Alphonsea, Hf. and Th.

Conspectus of species.

The stalk nearly as long as the carpel,...*A. ventricosa.*
The stalk of the carpels very short, ...*A. lutea.*

1. A. ventricosa, Hf. and Th. Fl. Ind. I. 152 and Ind. Fl. I. 89. (*Uvaria ventricosa*, Roxb. Fl. Ind. II. 658).

Hab. In the forests of Chittagong; Andamans.

2. A. lutea, Hf. and Th. Fl. Ind. I. 153, and Ind. Fl. I. 89 Bedd.

Jc. Pl. Ind. or. t. 91. (*Uvaria lutea*, Roxb. Corom. Pl. I. t. 36 and Fl. Ind. II. 666).

HAB. Ava, Segain (Wall.); Pegu (teste Hf. and Th.).

Cananga, Rumph.

1. C. ODORATA, Hf. and Th. Fl. Ind. I. 130 and Ind. Fl. I. 56. (*Uvaria odorata*, Lam. Ill. t. 495, f. 1; Roxb. Fl. Ind. II. 661; Griff. Not. Dicot. 712; *Uvaria axillaris*, Roxb. l. c. 667).

HAB. Ava (Wall. cult. ?); Tenasserim, apparently frequent.

Cyathostemma, Griff.

1. C. VIRIDIFLORUM, Griff. Not. Dicot. 707, Ic. t. 650; Hf. Ind. Fl. I. 57.

HAB. South Andaman, in the tropical forests north of Port Mouat.

This species is inserted here on the authority of Hf. and Th.

Unona, L.

Conspectus of species.

Sect. 1. *Desmos.* Petals 6. Berries necklace-like constricted between the seeds.

× Petals glabrous.

Leaves glabrous, pale coloured beneath; peduncles only ½ to 1½ in. long, axillary and occasionally terminal, ...*U. Dunalii.*

× × Petals appressed pubescent or puberulous.

Leaves glabrous beneath; peduncle 1-2 in. long; petals 2 in. by 1 in. ...*U. discolor.*

Leaves glaucous and usually pubescent beneath; peduncle 4-8 in. long; petals 2½ by 1 in., ...*U. desmos.*

Leaves while young greyish tomentose; peduncle 4 to 8 lin. long; petals 1-1½ in. long. oblong, ...*U. latifolia.*

Leaves pale coloured and pubescent beneath along the nerves; peduncle ½-¾ in. long; petals 2 to 3 in. long, very narrow linear, ...*U. stenopetala.*

Sect. 2. *Dasymaschalon.* Outer petals 3, large, the 3 inner ones quite suppressed.

Petioles rather long; petals 4 to 6 in. long, ...*U. longiflora.*

Leaves almost sessile, cordate at base; petals nearly 3 in. long, ...*U. dasymaschala.*

1. U. DUNALII, Wall. ap. Hf. and Th. Fl. Ind. I. 131, and Ind. Fl. I. 53.

HAB. Forests of Chittagong on the Seetakoond hill (Hf. and Th.).

2. U. DISCOLOR, Vahl. Symb. II. 63, t. 36; Roxb. Fl. Ind. II. 669; Hf. Ind. Fl. I. 59; Bedd. Icon. Pl. Ind. or. t. 51.

Var. *α.* PUBIFLORA, Hf. and Th. l. c.

Var. *β.* PUBESCENS, Hf. and Th. l. c.

Var. *γ.* LATIFOLIA, Hf. and Th. l. c.

HAB. Tropical forests and moister upper mixed forests from Chittagong and Ava down to Tenasserim. Fr. Jan.

3. U. DESMOS, Dun. Anon. 112; Hf. Ind. Fl. I. 52.

Hab. Frequent in tropical and low forests all over Pegu and Martaban; also Tenasserim. Fl. June; Fr. October.

It is difficult to distinguish some states of this species from the former, for the peduncles vary very much in length, as do also the petals with regard to size and shape.

4. U. latifolia, Hf. and Th. Ind. Fl. I. 60.

Hab. Martaban, in dry hill-forests on limestone rocks along the Ngachoung of the Salween (Brandis). Fl. May.

5. U. stenopetala, Hf. and Th. Fl. Ind. I. 163, and Ind. Fl. I. 60.

Hab. Tenasserim, Moulmein (Lobb).

6. U. longiflora, Roxb. Fl. Ind. II. 668; Hf. Ind. Fl. I. 61.

Hab. Chittagong.

7. U. dasymaschala, Bl. Fl. Jav. Anon. 55. t. 27; Hf. and Th. Fl. Ind. I. 135, and Ind. Fl. I. 61. (*Pelticalyx argentea*, Griff. Not. Dicot. 706?).

Var. *α*. Blumei, Hf. and Th. l. c.

Var. *β*. Wallichii, Hf. and Th. l. c. (*U. coelophloea*, Scheff. Obs. phyt. 6?).

Hab. Frequent in the tropical forests of Martaban and Tenasserim to the Andamans; also Ava. Fl. Febr. to May.

Polyalthia, Bl.

Conspectus of species.

Sect. 1. *Monoon*, Miq. Fl. hermaphrodite. Petals flat. Ovules solitary, erect.

§ Flowers usually rather large; carpels oblong or elongate and cylindrical.

× Petals linear to linear-lanceolate or spathulate-linear.

Leaves glabrous, one-coloured, apiculate or shortly acuminate; carpels obversely ovoid, ...*P. lateriflora.*

Leaves glabrous, glaucous or whitish beneath, shortly acuminate, ...*P. Sumatrana.*

× × Petals ovate to ovate-lanceolate and elliptical.

Carpels almost globular, glabrous?, leaves glabrous,... *P. nitida.*

Carpels velvety; leaves along the nerves beneath puberulous, ...*P. membranacea.*

Carpels elongate-oblong, glabrous; leaves along the nerves pubescent, ...*P. Jenkinsii.*

§ § Flowers small, on slender pedicels; carpels globular, pea-shaped.

Leaves along the nerves beneath pubescent, blunt or nearly so*P. suberosa.*

Leaves pubescent beneath, acuminate, ...*P. cerasoides.*

Sect. 2. *Eupolyalthia.* Flowers hermaphrodite. Petals flat. Ovules 2, superposed, ascending.

Fowers small, sessile or nearly so, sometimes clustered, ...*P. dubia.*

1. P. lateriflora, (*Guatteria lateriflora*, Bl. Bydr. 20 and Fl. Jav. Anon. 100, t. 50 and 52 D.; *Guatteria spathulata*, T. et B. in Tydschr. Nat. Ver. Ned. Ind. XXIV, petalis latioribus; *P. simiarum*, Bth. and Hf. Ind. Fl. I. 63.)

HAB. Not uncommon in the tropical forests of the eastern slopes of the Pegu Yomah and Martaban; also Tenasserim. Fr. May, June.

2. P. SUMATRANA (*Guatteria Sumatrana*, Miq. Suppl. Fl. Sumatr. 380; *Monoon Sumatranum*, Miq. in Ann. Mus. Lugd. Bat II. 19).

HAB. Tenasserim (or Andamans?) (Helf.).

3. P. NITIDA, Bth. and Hf. Ind. Fl. I. 64. (*Guatteria nitida*, A. DC. Mem. Anon. 41.

HAB. Tenasserim, Tavoy (Wall.).

Guatteria membranacea, A. DC. Mem. Anon. 41. Hf. Ind. Fl. I. 68. is hardly different from the above.

4. P. JENKINSII, Bth. and Hf. Ind. Fl. I. 64. (*Guatteria Jenkinsii*, Hf. and Th. Fl. Ind. I. 141; *P. Andamanica*, Kurz and And. Rep. 2 ed.29).

HAB. Frequent in the tropical forests of South Andaman and the adjacent islands. Fl. begin of R. S.

5. P. SUBEROSA, Bth and Hf. Ind. Fl. I. 65; Bedd. Icon. Pl. Ind. or. t. 56. (*Uvaria suberosa*, Roxb. Corom. Pl. I. t. 34 and Fl. Ind. II. 667).

HAB. Tenasserim. Fr. Febr.

6. P. CERASOIDES, Bth. and Hf. Ind. Fl. I. 63. (*Uvaria cerasoides* Roxb. Corom. Pl. I. t. 33, and Fl. Ind. II. 666; *Guatteria cerasoides*, Dun. Mem. Anon. 28; *P. bifaria*, Bth. and Hf. Ind. Fl. I. 62).

HAB. Prome (Wall.) Fr. Sept. Oct.

Wallich's specimens in HBC. are in fruit, and, therefore, it is very improbable that the flowers (which appear during H. S.) should belong to the same specimens in Kew Herb. referred to *P. bifaria*.

7. P. ? DUBIA, Kurz in And. Rep. 2nd ed. 29 (*P. macrophylla*, Hf. and Th. Ind. Fl. I. 66, excl. syn.) var. α GLABRIUSCULA, petals broader, leaves and branchlets glabrescent, var. β. FALCONERI, branchlets and leaves beneath pubescent, petals less imbricate in bud.

HAB. Var. α. Frequent in the tropical forests on the Andamans; var. β. Moulmein (Falc. 545). Fl. May, June.

I have only male flowers, and the imbrication of the petals (especially in the Andaman plant) indicates a different genus. Hf. and Th. identify the plant with Blume's *Guatteria macrophylla* (= *Trivalvaria macrophylla*, *Miq.*, *Guatteria brevipetala*, Miq.) which resembles especially the Andaman plant so much that I confounded it with it in my Andaman Report. This has, however, the inner petals thick and fleshy, narrowed at base and the broad triangular blades (see Bl. Fl. Jav. Anon. t. 52. B. f. 2,) connivent somewhat after the fashion of *Mitrephora*.

Doubtful species.

1. P. COSTATA, Hf. and Th. Ind. Fl. I. 67.

HAB. Tenasserim, along the Attaran river (Wall.)

Hf. and Th. refer this to the genus *Trivalvaria*, Miq.

Anaxagorea, St. Hil.

1. A. LUZONENSIS, A. Gray in Bot. U. S. Expl. Exp. 27; Hf. Ind. Fl. I. 68. (*A. Zeylanica*, Hf. and Th. Fl. Ind. I. 144; Bedd. Icon. Pl. Ind. or. t. 46.)

HAB. Not unfrequent in the tropical forests of Martaban and the southern slopes of the Pegu Yomah; also on the Andamans. Fl. May, June; Fr. Aug.

Popowia, Endl.

1. P. HELFERI, Hf. and Th. Ind. Fl. I. 69.

HAB. Tenasserim, King's island (Helfer).

Cyathocalyx, Champ.

1. C. MARTABANICUS, Hf. and Th. Ind. Fl. I. 53,

HAB. Not uncommon in the tropical forests of Martaban down to Tenasserim, rare in those of the eastern and southern slopes of the Pegu Yomah. Fr. March, Apr.

Anona, L.

Conspectus of species.

* Fruits areolate.

Leaves usually blunt; inner petals minute or almost none; fruit with prominent convex areoles, ...*A. squamosa.*

Leaves acuminate, larger; areoles of fruit not or hardly projecting, .. *A. reticulata.*

* * Fruits very large, muricate.

All parts glabrous.*A. muricata.*

1. A. SQUAMOSA, L. sp. pl. 757; Roxb. Fl. Ind. II. 657; Bot. Mag. t. 3095; Bl. Fl. Jav. Anon. 107. t. 53 B.; Hf. Ind. Fl. I. 78.

HAB. Cultivated all over Burmah, more especially and on a large scale in the Prome district. Fl. March.

2. A. RETICULATA, L. sp. pl. 757; Roxb. Fl. Ind. II. 657; Bot. Mag. t. 2911; Hf. Ind. Fl. I. 78.

HAB. Not much cultivated in Burmese gardens.

3. A. MURICATA, L. sp. pl. 756; Miq. Fl. Ind. Bat. I-2. 34.

HAB. Cultivated in gardens of Tenasserim, especially the southern parts.

Artabotrys, R. Br.

Conspectus of species.

§ Blade of petals flattened.

× Petals oblong-lanceolate, usually narrowed at base, with the borders reflexed.

O Flowers arising from hooked peduncles.

Young parts rusty tomentose; leaves firmly coriaceous, glabrous; petals densely tawny tomentose*A. crassifolius*

Quite glabrous; leaves thin coriaceous; petals glabrous or puberulous...*A. odoratissimus.*

O O Flowers arising directly from the lateral branchlets, peduncle reduced or only indicated.

Small erect shrub, adult parts all glabrous, ...*A. Kurzii.*

× × Petals narrow, linear, elongate, ...*A. speciosus.*

§ § Petal-blade terete or triquetrous, fleshy, subulate or linear.

Petals triquetrous; branchlets and leaves beneath pubescent*A. Birmanicus.*

Petals terete; all parts glabrous*A. suaveolens.*

1. A. CRASSIFOLIUS, Hf. and Th. Ind. Fl. I. 54.

HAB. Martaban (Dr. Brandis).

2. A. ODORATISSIMUS, R. Br. in Bot. Reg. t. 423; Hf. Ind. Fl. I. 54. (*A. hamatus*, Bl. Fl. Jav. Anon. 60, t. 29 and 31, C; *Uvaria odoratissima* et *U. uncata*, Roxb. Fl. Ind. II. 666; *A. Blumei*, Hf. and Th. Fl. Ind. I. 128; *A. intermedius*, Hassk. Pl. Jav. rar. 173).

HAB. Tenasserim, banks of rivers, along the Attaran etc.; Ava, near Mandalay, probably cultivated. (Dr. J. Anderson.)

3. A. KURZII, Hf. and Th. Ind. Fl. I. 54.

HAB. Not unfrequent in the Eng forests of Pegu and Martaban, on laterite. Fl. Apr.

4. A. SPECIOSUS, Kurz in And. Rep. 1 ed. App. B. 1; Hf. Ind. Fl. I. 55.

HAB. In the tropical forests along Middle Straits, South Andaman. Fl. May.

5. A. BURMANICUS, A. DC. Mem. Anon. 36; Hf. Ind. Fl. I. 55. (*Rhopalopetalum uniflorum*, Griff. Not. Dicot. 717).

HAB. Not unfrequent in tropical forests of the eastern slopes of the Pegu Yomah; Tenasserim from Moulmein to Mergui; also Ava, on Taong dong (Wall.) Fl. Nov.; Fr. Febr.

6. A. SUAVEOLENS, Bl. Fl. Jav. Anon. 62, t. 30 and 31, D.; Hf. Ind. Fl. I. 55. (*Rhopalopetalum sp.* Griff. Not. Dicot. 716).

HAB. Chittagong (Hf. and Th.), Tenasserim, Mergui (Griff).

Oxymitra, Bl.

Conspectus of species.

* Sepals short, coriaceous, 2 to 3 lin. long.

Petals from a broad base narrowly linear, nearly 2 in. long, slightly pubescent *O. stenopetala.*

Petals oblong-lanceolate, blunt, very thick, tawny puberulous, ...*O. Macclellandii.*

Incompletely known.*O. unonæfolia.*

* * Sepals as in *Goniothalamus*, membranous and nerved, large about 7 to 8 lin. long.

Petals oblong-lanceolate, about 1½ in. long, acute, tawny pubescent, ...*O. fornicata.*

1. O. STENOPETALA, Hf. and Th. Ind. Fl. I. 71.

HAB. Tenasserim, Moulmein and Thoungyeen (Falc., Brandis). Fl Apr.

2. O. MACCLELLANDII, Hf. and Th. Ind. Fl. I. 70.

HAB. Not unfrequent in the tropical and low forest of the southern slopes of the Pegu Yomah, chiefly on permeable laterite. Fl. May to June.

3. O. FORNICATA, Hf. and Th. Fl. Ind. I. 146 and Ind. Fl. I. 71. (Uvaria fornicata, Roxb. Fl. Ind. II. 662).

HAB. Not unfrequent in the tropical forests of South Andaman; Tenasserim, Mergui (Griff.). Fl. May.

Doubtful species.

1. O. UNONÆFOLIA, Hf. and Th. Fl. Ind. I. 146 and Ind. Fl. I. 71.

HAB. Tenasserim, Tavoy (Wallich).

Goniothalamus, Bl.

Conspectus of species.

Flowers about 9 lin. long. *G. sesquipedalis.*
Flowers about 2 in. long *G. Griffithii.*

1. G. SESQUIPEDALIS, Hf. and Th. Fl. Ind. I. 108 and Ind. Fl. I. 73. (*Guatteria sesquipedalis*, Wall. Pl. As. rar. III. t. 266).

HAB. Tenasserim (teste Hf. and Th).

2. G. GRIFFITHII, Hf. and Th. Fl. Ind. I. 110 and Ind. Fl. I. 73.

HAB. Rather rare in the tropical forests of the eastern slopes of the Pegu Yomah (headwaters of Swachoung); Martaban (Brandis); Tenasserim, Mergui (Griff).

Melodorum, Dun.

Conspectus of species.

Sect. 1. *Pyramidanthe*, Miq. Calyx cyathiform, 3-lobed. Flowers large, 2-5 in. long.
Flowers 4-5 in. long, white; leaves membranous, quite glabrous, ... *M. macranthum.*
Flowers 2-3 in. long, yellow; leaves beneath densely puberulous, glabrescent coriaceous, ... *M. prismaticum.*
Sect. 2. *Eu-Melodorum*. Calyx deeply 3-cleft; flowers small, 1 in. or less long.
Flowers about an in. long or a little longer; carpels simply tomentose, ... *M. rubiginosum.*
Flowers about ½ in. long, ... *M. Griffithii.*
Flowers nearly ½ in. long; carpels densely verrucose, pubescent, ... *M. verrucosum.*
Flowers 1 in. long; carpels almost glabrous, ... *M. bicolor.*

1. M. MACRANTHUM Kurz in Journ. As. Soc. Beng., 1872, 291. (*Unona macrantha*, Kurz in And. Rep. ed. 1. App. B. 1; *Pyramidanthe macrantha*, Kurz, l. c., ed. 2, p. 29).

HAB. Rather rare in the tropical forests about Port Mouat, South Andaman. Fl. June.

The large flowers resemble much those of *Unona longiflora*, the leaves those of *Goniothalamus cardiopetalus*.

2. M. RUBIGINOSUM, Hf. and Th. Fl. Ind. I. 116 and Ind. Fl. I. 79.

HAB. Rare in the tropical forests of Martaban (E. of Tounghoo); Tenasserim; Chittagong.

3. M. GRIFFITHII, Hf. and Th. Fl. Ind. I. 120 and Ind. Fl. I. 80. (*Fissistigma scandens*, Griff. Not. Dicot. 706).

HAB. Tenasserim, Mergui (Griff.) Fl. Decb.

4. M. VERRUCOSUM, Hf. and Th. Fl. Ind. I. 119 and Ind. Fl. I. 80.

HAB. Ava, Khakyen hills, Ponsee (J. And.). Fl. Apr.

5. M. BICOLOR, Hf. and Th. Fl. Ind. I. 119 and Ind. Fl. I. 80. (*Uvaria bicolor*, Roxb. Fl. Ind. II. 662).

HAB. Tropical forests of the western slopes of Pegu, along the headwaters of the Panyo-gyee choung (feeder of Toungnyo choung); Ava (accord. Hf. and Th.).

Mitrephora, Bl.

Conspectus of species.

* Flowers dioecious, small (about 3 lin. long).

Leaves (except nerves beneath) glabrous; inflorescence and petals tomentose, *M. reticulata.*

** Flowers conspicuous, 1 to 2 in. in diameter.

Leaves softly tomentose beneath; flowers 2 in. across, on short and thick pedicels, ...*M. tomentosa.*

Leaves minutely puberulous or almost glabrous, chartaceous; flowers about an in. across, on long slender pedicels, ...*M. vandæflora.*

1. M. RETICULATA, Hf. and Th. Ind. Fl. I. 77. (*U. reticulata*, Bl. Fl. Jav. Anon. 50. t. 24; *M. aperta*, T. et B. in Nat. Tydsch. Ned. Ind.).

HAB. Tenasserim (Helf.).

2. M. TOMENTOSA, Hf. and Th. Fl. Ind. I. 113, and Ind. Fl. I. 76.

HAB. Chittagong.

3. M. VANDÆFLORA, Kurz, MS.

HAB. Not unfrequent in the tropical forests of the Pegu Yomah and Martaban. Fl. Febr.—March.

This should be compared with *M. Maingayi*, Hf. and Th., a species which I cannot recognize from the description alone. There are two varieties differing in the texture and pubescence of the leaves, but the flowers are alike in both.

Orophea, Bl.

Conspectus of species.

* Flowers very small (hardly 2 to 3 lin. in diameter).

Leaves glabrous; sepals minutely hispid, ciliate; carpels globular, stalked, . *O. polycarpa.*

Leaves along the nerves pubescent; sepals densely pubescent; carpels elongated, oblong, sessile, ...*O. hexandra.*

** Flowers rather large (about an in. in diameter).

Leaves rather large, pubescent beneath, ...*O. Brandisii.*

1. O. POLYCARPA, A. DC. Mém. Soc. Gen. V. 39; Hf. Ind. Fl. I. 91. (*Anonacea* Griff. Dicot. Ic. t. 654?, *Melodorum monospermum*, Kurz in And. Rep. App. B. p. 1.)

Hab. Rather frequent in the tropical forests of the Andamans; Martaban, Meeplay (Brandis); Tenasserim, along the Salween (Wll.). Fl. March; Fr. June.

2. O. hexandra, Bl. Bydr. 18; Miq. Fl. Ind. Bat. I-2, 29. (*Bocagea hexandra*, Bl. Fl. Jav. Anon. 13, t. 40; *O. acuminata*, A. DC. Mém. Soc. Gen. V. 39; Hf. Ind. Fl. I. 91).

Hab. Tenasserim, Tavoy (Wall.).

3. O. Brandisii, Hf. and Th. Ind. Fl. I. 92.

Hab. Not uncommon along choungs in the tropical forests of Martaban (Toukyeghat); Tenasserim, Thounggyeen (Brandis). Fl. Apr. May.

Miliusa, Lesch.

Conspectus of species.

* Pedicels 2 to 4 in. long, without or with a rudimentary bractlet.

Tomentose; berries tomentose, shortly stalked, ... *M. velutina.*

* * Pedicels short, only 6 to 10 lin. long.

Branchlets and leaves beneath rusty pubescent; flowers about ½ in. long; pedicels bracteoled, ...*M. Roxburghiana.*

Leaves glabrous; flowers nearly an in. long; pedicels bracteoled,... .. *M. tristis.*

Almost glabrous; pedicels without bractlet, ...*M. sclerocarpa.*

1. M. velutina, Hf. and Th. Fl. Ind. I. 151 and Ind. Fl. I. 87; Bedd. Ic. Pl. Ind. or. t. 87. (*Uvaria villosa*, Roxb. Fl. Ind. II. 664).

Hab. In the lower mixed, the low and moist forests, entering also the savannah forests; Ava; common in Pegu, but rare in Martaban, also in Tenasserim. Fl. H. S.; Fr. Begin. of R. S.

2. M. Roxburghiana, Hf. and Th. Fl. Ind. I. 150 and Ind. Fl. I. 87. (*Uvaria dioica*, Roxb. Fl. Ind. II. 659; *Hyalostemma Roxburghiana*, Wall. Cat. 6434; Griff. Dicot. Icon. t. 653; *Phœanthus dioicus*, Kurz in Journ. As. Soc. 1870, 62).

Hab. Chittagong; Tenasserim.

3. M. tristis, Kurz, MS.

Hab. Ava, Khakyen hills, at Ponsee (Dr. J. Anderson). Fl. March.

4. M. sclerocarpa, Kurz in Journ. As. Soc. Beng. 1872, 291. (*Saccopetalum sclerocarpum*, Hf. and Th. Ind. Fl. I. 88).

Hab. Not unfrequent in the upper mixed forests of the Martaban hills, E. of Tounghoo, at 2000 to 3000 ft. elevation; Tenasserim, Moulmein (Wall.) Fl. March.

The difference between *Phœanthus* and *Miliusa* is restricted to the nature of the connective, a character which in *Uvaria* has met with no consideration.

N. B. Nephrostigma, sp. Griff. Not. Dicot. 717 from Mergui I cannot identify. Griffith says that the genus is easily recognizable by the sepals and outer petals being conform. Now if "sepala exteriora *majora*" be a misprint for *minora*, we might compare it with *Miliusa* or *Phœanthus*.

MENISPERMACEÆ.

Conspectus of genera.

Trib. I. TINOSPOREÆ. Carpels 3, rarely 6. Style-scar almost terminal, rarely ventral or almost basal. Seeds meniscoid or rarely oblong, albuminous. Cotyledons leafy, usually spreading laterally.

* Petals 6, shorter than the inner sepals. Style-scar almost terminal.

1. PARABÆNA. Sepals 6. Filaments connate, the anthers in heads. Seeds meniscoid.

2. ASPIDOCARYA. Sepals 12. Filaments connate, the anthers sessile round the peltate end of the column. Seeds oblong.

3. TINOSPORA. Sepals 6. Stamens 5; anther-cells lateral, distinct. Seeds meniscoid. Albumen ruminate.

* * Petals none.

4. FIBRAUREA. Sepals 9. Stamens 6, free. Style-scar almost terminal. Albumen horny.

5. ANAMIRTA. Sepals 6, in 2 rows. Filaments connate, anthers sessile at the end of the column. Style-scar almost basal. Albumen ruminate.

Trib. II. COCCULEÆ. Flowers 3-merous. Ovaries usually 3. Style-scar almost basal, rarely almost terminal. Seeds horseshoe-shaped. Albumen copious. Embryo slender, the cotyledons linear or only slightly dilated.

× Albumen ruminate.

6. TILIACORA. Petals 6, minute. Carpels 6-12.

× × Albumen homogeneous.

7. LIMACIA. Petals 5—8. Styles short, compressed.

8. COCCULUS. Petals 6. Carpels 3—6. Styles subulate, simple or 2-cleft.

Trib. III. CISSAMPELIDEÆ. Flowers 3—5-merous. Ovaries usually solitary. Style-scar usually almost basal. Endocarp dorsally muricate or echinate. Seeds horseshoe-shaped. Albumen scanty. Embryo linear, the cotyledons appressed.

9. STEPHANIA. Petals 3 to 5, shorter than the sepals, rather thick. Staminal column peltate at summit. Flowers umbellate.

10. CISSAMPELOS. Male fl.: sepals 4; petals united in a cup. Female fl: sepals and petals 1—2, the latter entire 2-cleft or -parted; styles simple. Flowers cymose or racemose.

11. CYCLEA. Male fl.: Sepals connate; petals more or less connate. Female fl: sepals 2, lateral, free; petals none; styles 2-parted Flowers panicled.

Trib. IV. PACHYGONEÆ. Flowers usually 3-merous. Ovaries and carpels usually 3, rarely 9—12. Style-scar almost basal or ventral. Seed curved hooked or inflexed, without albumen. Cotyledons thick and fleshy.

12. PACHYGONE. Sepals, petals and stamens, 6 each. Anthers blunt. Styles thick, Drupes reniform.

Parabæna, Miers.

1. P. SAGITTATA, Miers in Tayl. Ann. ser. 2-VII. 39 and Contr. Bot. III. 57 and 391, t. 98; Hf. Ind. Fl. I. 96.

HAB. Not unfrequent in the tropical forests along the eastern slopes of the Pegu Yomah and Martaban; also Ava and Chittagong. Fl. March, Apr.—Fr. May, June.

Aspidocarya, Hf. and Th.

1. A. UVIFERA, Hf. and Th. Fl Ind. I. 180 and Ind. Fl. I. 95. Miers contrib. III. 58. t. 99. var. β, MOLLIS, all parts softly pubescent.

HAB. Ava, Khakyen hills, Ponsee (J. Anderson). Fl. Apr.

Tinospora, Miers.

Conspectus of species.

* Drupes the size of a pea, the putamen tuberculate.

Young parts and the orbicular-ovate blunt leaves beneath tomentose, ...*T. tomentosa.*
Young parts and the cordate-ovate acuminate leaves beneath pubescent, ...*T. Malabarica.*
All parts glabrous, ...*T. crispa.*

* * Putamen smooth.

All parts glabrous; drupes the size of a pea, ...*T. cordifolia.*
Young leaves and shoots pubescent or tomentose; drupes the size of a cherry, *T. nudiflora.*

1. T. TOMENTOSA, Miers in Tayl. Ann. ser. 2 VII. 38 and Contr. Bot. III. 33; Hf. Ind. Fl. I. 96. (*Menispermum tomentosum*, Roxb. Fl. Ind. III. 813).

HAB. Ava (Wall.)

2. T. MALABARICA, Miers in Tayl. Ann. ser. 2. VII. 38 and Contr. Bot. III. 32; Hf. Ind. Fl. I. 96.

HAB. Chittagong (Hf. and Th.)

3. T. CRISPA, Miers in Tayl. Ann. ser. 2, VII. 38 and Contr. Bot. III. 34 Scheff. Obs. Phyt. III. 71. t. 1. (*Menispermum verrucosum*, Roxb. Fl; Ind. III. 808).

HAB. Pegu (teste Hf. and Th.); Arracan, Sandoway (teste Miers).

4. T. CORDIFOLIA, Miers in Tayl. Ann. ser. 2. VII. 38 and Contr. Bot. III. 31; Hf. Ind. Fl. I. 97; Scheff. Obs. Phyt. III. 71, t. 2. (*Menispermum cordifolium*, Willd. IV. 826; Roxb. Fl. Ind. III. 811? *Cocculus cordifolius* DC. Syst. I. 518; Wight Ic. t. 485-486).

HAB. Not unfrequent in the forests of the Andaman islands; Ava (Wall.); Chittagong.

Roxburgh figures the stems of his plant as 5- (or 6 ?) angular, and the angles as produced into membranous waved wings; it can, therefore, hardly be the same as Miers's.

5. T. NUDIFLORA, Kurz in Journ. As. Soc. Bengal, 1872, 292. (*Cocculus nudiflorus*, Griff. Not. Dicot. 307).

HAB. Rather frequent in the tropical forests of the E. slopes of the Pegu Yomah and Martaban; also Tenasserim.—Fl. March, Apr.; Fr. Begin. of R. S.

Fibraurea, Lour.

1. F. TINCTORIA, Lour. Fl. Coch. II. 769; Miers Contr. Bot. III. 41; Hf. Ind. Fl. I. 98; Scheff. Obs. Phyt. III. 73, t. 4.

HAB. Tenasserim, Tavoy (Griff.).

HAB. Not unfrequent in the tropical forests along the eastern slopes of the Pegu Yomah and Martaban down to Tenasserim (Moulmein); also Chittagong.

2. C. LINNÆANUS, (*Menispermum hirsutum* L. sp. pl. 1469 Roxb. Fl. Ind. III. 814; *Menispermum myosotoides*, L. l. c.; *Cocculus villosus*, DC. Syst. I. 525; Hf. and Th. Ind. Fl. I. 101).

HAB. Frequent in hedges, shrubberies, etc. around villages all over Pegu and Prome; also Ava. Fl. Jan. Febr.

3. C. INCANUS, Colebr. in Linn. Trans. XVII. 57; Scheff. Obs. Phyt. III. 76, t. 10. (*Pericampylus incanus*, Miers in Tayl. Ann. ser. 2. VII. 40 and Contr. Bot. III. 118; Hf. and Th. Ind. Fl. I. 102; *Menispermum villosum* Roxb. Fl. Ind. III. 812).

HAB. Frequent in savannahs, mixed and other deciduous forests all over Burmah from Chittagong, Ava, Pegu and Martaban down to Tenasserim, up to 3000 ft. elevation. Fl. March.

Stephania, Lour.

Conspectus of species.

Leaves glabrous or pubescent; flowers very shortly pedicelled, in head-like umbellets, .. *St. hernandifolia.*

Leaves glabrous; flowers slenderly pedicelled forming loose cymose umbellets, *St. rotunda.*

1. ST. HERNANDIFOLIA, Walp. Rep. I. 96; Hf. and Th. Fl. I. 196 and Ind. Fl. I. 103; Wight Ic. t. 939.

Var. α. GLABRESCENS, Hf. and Th. l. c.

Var. β DISCOLOR Hf. and Th. l. c. (*Cissampelos hernandifolia*, Willd., Roxb. Fl. Ind. III. 842; *Lissampelos hexandra*, Roxb. l. c. 840).

HAB. Frequent all over Burmah from Ava and Chittagong down to Tenasserim, in savannahs and mixed forests, etc. Fl. March to June; Fr. Apr. June.

2. ST. ROTUNDA, Lour. Fl. Coch. 747; Hf. and Th. Fl. Ind. I. 197 and Ind. Fl. I. 103; Scheff. Obs. Phytol. III. 79, t. 14. (*Cissampelos glabra* Roxb. Fl. Ind. III. 840, Wal-tiedde, Gaertn. Fruct. I. t. 180.).

HAB. Frequent in mixed forests and shrubberies round villages, etc. of Pegu; also Tenasserim, Moulmein; Andamans. Fl. May, June.

Cissampelos, L.

1. C. PAREIRA, L. sp. pl. 1473; Hf. and Th. Fl. Ind. I. 198 and Ind. Fl. I. 103; Scheff. Obs. Phyt. III. 79, t. 14. (*C. Caapa*, L. sp. pl. 1473; Roxb. Fl. Ind. III. 842; *C. convolvulacea*, Willd.; Roxb. l. c.)

HAB. Common all over Burma and adjacent provinces, in all leafshedding forests and in cultivated lands, but specially in the savannahs and savannah-forests, up to 3000 ft. elevation. Fl. H. S.

Anamirta, Colebr.

1. A. COCCULUS, WA. Prod. I. 446; Hf. Ind. Fl. I. 98. (*A. paniculata*, Colebr. Linn. Trans. XIII. 66; Miers Contr. Bot. III. 51; *Menispermum Cocculus*, L. sp. pl. 1468; Roxb. Fl. Ind. III. 807; *Menispermum heteroclitum*, Roxb. l. c. 817).

HAB. Tenasserim, Moulmein (Falconer). Fl. Febr.

Tiliacora, Colebr.

1. T. RACEMOSA, Colebr. in Lin. Trans. XIII. 67; Miers Contr. Bot. III. 76 t. 104; Hf. Ind. Fl. I 99. (*Menispermum polycarpum*, Roxb. Fl. Ind. III. 816; *Tiliacora acuminata*, Miers in Tayl. Ann. ser. 2. VII. 89; Scheff. Obs. Phytol. III. 74. t. 7) *Cocculus acuminatus*, DC. Prod. I. 99; Deless. Icon. Sel. I. t. 95).

HAB. Pegu (teste F. Mason.)

Limacia, Lour.

Conspectus of species.

Subg. 1. *Hypserpa*, Miers. Sepals 8—12, broad, of thin texture, the smaller ones imbricate.
Older leaves glabrous; stamens 6 to 10, ...*L. cuspidata.*
Subg. 2. *Eu-Limacia*, Miers. Sepals 9, thick, valvate in bud.
Stamens 3; adult leaves glabrous, ...*L. triandra.*
Stamens 6; branches and leaves beneath velvety tomentose, ...*L. velutina.*

1. L. CUSPIDATA, Hf. and Th. Fl. Ind. I. 189, and Ind. Fl. I. 100. Scheff. Obs. Phytogr. III. 75 t. 8.

HAB. Tenasserim, Mergui (Griff).

2. L. TRIANDRA, Miers in Tayl. Ann. ser. 2, VII. 43; Hf. Ind. Fl. I. 100.; (*Menispermum triandrum*, Roxb. Fl. Ind. III. 816; *L. Amherstiana*, Miers Contr. III. 112).

HAB. Prome (Wall.); Tenasserim, Kogun, Amherst (Wall. and Falc).

3. L. VELUTINA, Miers in Tayl. Ann ser. 2, VII. 43; Hf. Ind. Fl. I. 100. (*Cocculus villosus*, Griff. Not. Dicot. 308 ?).

HAB. Tenasserim, Moulmein (Lobb. 335); Mergui (Griff).

Cocculus, DC.

Conspectus of species.

Subg. 1. *Cocculus.* Styles simple.
Leaves glabrous, on very long petioles, ...*C. glaucescens.*
Leaves more or less pubescent, especially beneath; petioles short,... ...*C. villosus.*
Subg. 2. *Pericampylus.* Styles 2-parted.
Leaves almost peltate, tomentose or pubescent beneath, ... *C. incanus.*

1. C. GLAUCESCENS, Bl. Bydr. 25; Miq. Ann. Mus. Lugd. Bat. IV. 84. (*C. macrocarpus*, WA. Prod. I. 13; Wight Ill. I. 22, t. 7; Hf. Ind. Fl. I. 101).

Cyclea, Arn.

1. C. PELTATA, Hf. and Th. Fl. Ind. I. 201 and Ind. Fl. I. 104; Scheff. Obs. Phyt. III. 79, t. 15.

HAB. Not unfrequent in the open, especially the hill Eng-forests, and in dry and drier upper mixed forests all over Burma from Chittagong and Ava down to Tenasserim. Fl. Fr. Oct. to March.

Pachygone, Miers.

Conspectus of species.

Inflorescence and drupes densely tomentose; leaves with prominent nervation, *P. dasycarpa.*
Inflorescence glabrous; leaves almost polished, ... *P. odorifera.*

1. P. DASYCARPA, Kurz in Journ. As. Soc. Beng. 1870. 62. (*Antitaxis ramiflora*, Miers Contr. III. 1871, 358).

HAB. Upper Tenasserim, Moulmein District, on limestone (Dr. Stoliczka). Fl. R. S.

2. P. ODORIFERA, Miers Contr. Bot. III. 333.

HAB. Common in the swamp forests of Prome, Pegu and Martaban; Tenasserim, Moulmein, on limestone rocks (Parish).

I have seen no authentic specimens of *P. odorifera*, and refer my plant here on the authority of Baker (*in lit.*). Unfortunately I did not succeed in finding either flower or fruit of this common climber, but it certainly is different from *P. ovata.*

One or two other large-leaved species occur on the Andamans and Nicobars, but they are only in leaves.

BERBERIDEÆ.

Conspectus of genera.

Trib. I. LARDIZABALEÆ. Flowers unisexual or polygamous. Carpels 3. Usually climbers.
1. PARVATIA. Leaves digitate. Stamens monadelphous. Climbers.
Trib. II. BERBERIDEÆ. Flowers hermaphrodite. Carpel solitary, erect or stemless.
2. BERBERIS. Ovules erect, basilar. Fruit a berry. Shrubs.

Berberis, L.

1. B. NEPALENSIS, Spreng. Syst. veg. II. 120; Hf. Ind. Fl. I. 109 (*Mahonia Nepalensis*, DC. Prod. I. 109 Deless. Icon. sel. II. t. 4; *B. Leschenaultii*, Wall. Cat. 1479; Wight Ic. t. 940).

HAB. Tenasserim, Mergui (Griff.).

Hf. and Th. in the first edition of their Flora of India cite Mergui as a habitat for *Parvatia Brunoniana*; Dr. Brandis, however, informs me that no Burmese specimens of this species exist in the Kew Herbarium.

NYMPHÆACEÆ.

Conspectus of genera.

Subord. I. NYMPHÆÆ. Sepals 4—6. Petals and stamens numerous. Carpels confluent with one another or with the disk into one ovary; ovules many. Seeds albuminous.

1. NYMPHÆA. Sepals, petals and stamens half superior, inserted on the disk, the latter confluent with the carpels. Not armed.

2. BARCLAYA. Sepals inferior; petals superior; carpels immersed in the torus. Not armed.

3. EURYALE. Sepals, petals and stamens superior. Carpels immersed in the torus. Armed with sharp thorns.

Subord. II. NELUMBONEÆ. Sepals 4 or 5. Petals and stamens numerous, hypogynous. Carpels sunk in pits without order in the flat turbinate torus.

4. NELUMBO. Only genus.

Nymphæa, L.

Conspectus of species.

Anthers without appendage, ...*N. Lotus.*
Anthers terminated with a long appendage, ...*N. stellata.*

1. N. LOTUS, L. sp. pl. 729; Hf. and Th. Fl. Ind. I. 241 and Ind. Fl. I. 114.

Var. α. LOTUS, Hf. and Th. l. c.; (*N. rubra*, Roxb. Fl. Ind. II. 576; Wight Ill. t. 10; Bot. Rep. t. 503; Bot. Mag. t. 1280, 1364 and 4665; *N. esculenta*, Roxb. l. c. 578).

Var. β. CORDIFOLIA, Hf. and Th. l. c.

Var. γ. PUBESCENS, Hf. and Th. l. c. (*N. pubescens*, Willd. sp. pl. II. 1154 ?; *N. Lotus*, Roxb. Fl. Ind. II. 577).

HAB. In tanks, lakes and swamps, etc.; var. α. not unfrequent in Pegu; also Tenasserim; var. β. in Chittagong; var. γ. not unfrequent in lakes and stagnant waters of the lower parts of Pegu. Fl. R. S.

2. N. STELLATA, Willd. sp. pl. II. 1153; Hf. and Th. Ind. I. 243 and Ind. Fl. I. 114.

Var. α. CYANEA, Hf. and Th. l. c. (*N. cyanea*, Roxb. Fl. Ind. II. 577; *N. stellata*, Bot. Mag. t. 2058).

Var. β. PARVIFLORA, Hf. and Th. l. c. (*N. stellata*, Willd. l. c.; Bot. Rep. t. 330; Roxb. Fl. Ind. II. 577.)

Var. γ. versicolor, Hf. and Th. l. c.

HAB. In stagnant waters and swamps; var. α. and β. frequent in Chittagong, Pegu and Arracan; var. γ. Chittagong. Fl. R. S.

Barclaya, Wall.

1. B. LONGIFOLIA, Wall. in Linn. Trans. XV. 442, t. 18; Hook. Icon. Pl. t. 809-10; Griff. Not. Dicot. 218, t. 57; Hf. Ind. I. 115.

HAB. In running streams; Pegu, Rangoon; Tenasserim, Moulmein and southwards to Mergui, apparently frequent. Fl. R. S.

Euryale, Salisb.

1. E. FEROX, Salisb. Ann. Bot. II. 73; Roxb. Corom. Pl. III. t. 244; Bot. Mag. t 1447; Griff. Dicot. t. 657; Hf. Ind. I. 115. (*Anneslea spinosa*, Roxb. Fl. Ind. II. 573; Bot. Reg. t. 618).

HAB. Chittagong, in swamps. Fl. R. S.

Nelumbo, Ad.

1. N. NUCIFERA, Gaertn. Fruct. I. 73; Casp. in Miq. Ann. Mus. Lugd. Bat. II. 242. (*Nelumbium speciosum*, Willd. sp. pl. II. 1258; Roxb. Fl. Ind. II. 647; Bot. Mag. t. 903; Wight Ill. I. t. 9; Hf. Ind. Fl. I. 116),

HAB. Not unfrequent in stagnant waters of the alluvial plains of Pegu; frequently cultivated in tanks, pagodas, etc. Fl. Apr. May.

PAPAVERACEÆ.

Conspectus of genera.

1. PAPAVER. Capsules opening by short valves or pores. Stigmas 4 or more, radiating on a sessile disk.

2. ARGEMONE. Capsules opening by short valves. Stigmas 4 to 6, radiating from the top of a depressed style.

Papaver, L.

*1. P. SOMNIFERUM, L. sp. pl. 726; Roxb. Fl. Ind. II. 571; Engl. Bot. t. 2145; Sibth. Fl. Græc. t. 491; Rohb. Fl. Germ. III. t. 17; Hf. and Th. Fl. Ind. I. 250.

HAB. Not much cultivated in Burmah, especially in Ava. Fl. Febr. March, Fr. Apr. May.

Argemone, L.

*1. ARG. MEXICANA, L. sp. pl. 727; Roxb. Fl. Ind. II. 571; Wight Ill. I. t. 11.; Bot. Mag. t. 243; Bot. Reg. t. 1343; Gray. Gen. t. 47; Hf. Ind. Fl. I 117.

HAB. Domesticated in lower Ava (J. Anderson); in cultivated lands near Rangoon, sporadically. Fl. Jan.

CRUCIFERÆ.

Conspectus of genera.

* Pods elongate or short, dehiscing along their whole length, not jointed, rarely indehiscent at the summit. Septa and valves equally broad and parallel.

O Cotyledons accumbent.

1. NASTURTIUM. Pods long or short, the valves turgid or not. Seeds small, in 2 rows. Flowers usually yellow.

2. CARDAMINE. Pods narrow, elongate linear, the valves flat and elastic. Seeds in 2 rows. Flowers usually white.

O O Cotyledons longitudinally conduplicate.

3. BRASSICA. Pods elongate. Stigma truncate or 2-lobed. Seeds in a single row.
* * Pods short, dehiscing along their whole length, not articulate, the valves flat, at right angles to the septum.
4. LEPIDIUM. Pods oblong, notched, 2- rarely 4-seeded. Flowers white.
* * * Pods elongate, indehiscent, not jointed but contracted and pithy within between the seeds. Cotyledons incumbent.
5. RAPHANUS. Flowers pale lilac or white with coloured veins.

Nasturtium, L.

Conspectus of species.

Pods rather thick, 2 to 5 times longer than the pedicels, more or less curved, *N. Indicum*.
Pods very slender, straight or nearly so, 1 to 1½ in. long, ...*N. montanum*.

1. N. INDICUM, L. Mant. 93; Hf. and Th. in Linn. Proc. V. 138. (*N. Madacasgariense*, WA. Prod. I. 19; Wight Ill. I. t. 13; *Sinapis divaricata*, Roxb. Fl. Ind. III. 123).

Var. β. BENGHALENSE (*N. Benghalense* DC. Syst. II. 198; Hf. and Th. in Linn. Proc. V. 139).

Var. γ. GLABRUM, quite glabrous, the flowers thrice as large; pods larger and on longer pedicels; racemes bracted. Habit of *Sinapis*.

HAB. Var. β. very common on muddy banks of rivers, in rubbishy places round villages, all over Pegu and Martaban; also Chittagong and Tenasserim; var. γ. in the dried up bed of streamlets in the swamp-forests of the Irrawaddi alluvium. Fl. January to June; Fr. Febr. July.

Var. γ. is a very distinct form and will probably have to be separated, but unfortunately there are no ripe pods.

2. N. DIFFUSUM, DC. Prod. I. 139; Miq. Fl. Ind. Bat. I/2. 94 and Ill. Fl. Arch. Ind. 1870, 14. (*N. Montanum*, Wall. in Linn. Proc. V. 139; Bth. Fl. Hongk. 16.; *Sinapis pusilla*, Roxb. Fl. Ind. III. 125?).

HAB. Ava (Wall.).

Cardamine, L.

1. C. HIRSUTA, L. sp. pl. 915; Engl. Bot. t. 492, Hf. and Th. in Linn. Journ. V. 146.

Var. β. SYLVATICA, Hf. and T. And. Ind. Fl. I. 138.

HAB. Ava, Bhamo (J. Anderson); Martaban, Toukyeghat, in shady muddy places (only one specimen!). Fl. Febr. March.

Brassica, L.

Conspectus of species.

Stem-leaves at base stem-clasping with their auricles, ...*B. campestris*.
Stem-leaves often petioled, not stem-clasping,
Stem-leaves narrowed at base or petioled; flowers yellow, ... *B. juncea*.
Stem-leaves broad at base and sessile but not stem-clasping; petals white or yellowish white with violet veins,...*B. oleracea*.

1. B. CAMPESTRIS, L. sp. pl. 931; Engl. Bot. t. 2224; Hf. Ind. Fl. I. 156. (*B. rapa*. L. sp. pl. 931; Engl. Bot. t. 2176; *B. Napus*, L. sp. pl. 931; *Sinapis dichotoma*, Roxb. Fl. Ind. III. 117; *S. glauca*, Roxb. l. c. 118; *B. brassicata*, Roxb. l. c. 120).

HAB. Arracan, rare in fields near Akyab; Ava, Bhamo. Fl. Decb.

2. B. JUNCEA, Hf. and Th. in Linn. Proc. V. 170. and Ind. Fl. I. 157. (*Sinapis juncea*, L. sp. pl. 934; *Sinapis ramosa*, Roxb. Fl. Ind. III. 119; *Sinapis rugosa*, Roxb. l. c. 122; *Sinapis patens*, Roxb. l. c. 124; *Sinapis cuneifolia*, Roxb. l. c. 116).

HAB. Frequent in fields, along river-banks, etc., all over Pegu and Martaban; also much cultivated; Ava, Bhamo. Fl. Fr. C. S.

* 3. B. OLERACEA, L. sp. pl. 932; Engl. Bot. t. 637; Fl. Dan. XII. t. 2056: Roxb. Fl. Germ. 97: DC. Prod. I. 213.

HAB. Not much cultivated in several varieties like cabbage, cauliflower, Kohlrabbi, etc. Fl. Febr. March; Fr. Apr.

Lepidium, L.

* 1. L. SATIVUM, L. sp. pl. 899; Roxb. Fl. Ind. III. 116; Hf. Ind. Fl. I. 159; Fl. Dan. X. t. 1761; Sibth. Fl. Graec. t. 616; Roxb. Fl. Germ. II. t. 9; Wight Ill. I. t. 12; NE. Gen. Germ. X. t. 10.

HAB. Cultivated only. Fl. Fr. C. S.

Raphanus, L.

* 1. R. SATIVUS, L. sp. pl. 935 Roxb. Fl. Ind. III. 126; Rchb. Fl. Germ. II. t. 3.; NE. Gen. Germ. X. t. 10; Hf. Ind. Fl. I. 166.

HAB. Cultivated and often like wild on the banks of rivers, etc. Fl. Febr. March; Fr. Apr.

CAPPARIDEÆ.

Conspectus of genera.

Trib. I. CLEOMEÆ. Fruit capsular, 1-celled, usually pod-like, rarely short or didymous; capsules 4—8- or many-seeded. Herbs.

× Torus short, the stamens inserted immediately within the sepals and petals.

1. CLEOME. Torus often produced into an appendage. Stamens 4 to 6 or more, some of them often without anthers.

× × Torus elongated, bearing the stamens at the top under the ovary.

2. GYNANDROPSIS. Stamens 6, all perfect; filaments long.

Trib. II. CAPPAREÆ. Fruit berry-like or drupaceous. Shrubs or trees.

* Sepals united at the base in a funnel- or bell-shaped tube, or forming a spathaceous calyx.

3. NIEBUHRIA. Calyx-tube funnel- or bell-shaped, the limb 4-lobed, valvate in bud. Petals none. Berry ovoid. Leaves 1- to 3-foliolate.

* * Sepals free or connate only at the very base.

× Petals present.

4. CAPPARIS. Calyx various. Corolla imbricate. Petals 4. Stamens usually definite, inserted at the base of the short torus. Leaves simple.

5. CADABA. The 2 outer sepals valvate in bud. Torus elongated into a tube. Berry cylindrical, almost indehiscent. Leaves 1- to 3-foliolate.

6. CRATÆVA. Flowers polygamous. Corolla open in bud already. Sepals 3, all imbricate in bud. Petals 4, on long claws. Leaves 3- to 5-foliolate.

×× Petals none.

7. ROYDSIA. Sepals 6. Drupes 1—3-seeded. Leaves simple.

Cleome, L.

Conspectus of species.

Plant thinly appressed hispid. Petals white or pale rose-coloured, ... *C. Chelidonii.*
Glandular-pubescent; petals yellow, ... *C. viscosa.*

1. C. CHELIDONII, L. f. Suppl. 300; Roxb. Fl. Ind. III. 127; Hf. Ind. Fl. I. 170. (*Polanisia Chelidonii*, DC. Prod. I. 242; Wight Ic. t. 319).

HAB. Not unfrequent along the borders of the Prome road between Poungday and the Myitmakha choung. Fl. March, Apr.

I do not feel quite sure whether this plant is really indigenous. As it seems restricted to the locality given above, it may well have been introduced by the Madras people employed in the construction of the Prome road.

2. C. VISCOSA, L. sp. pl. 447; Roxb. Fl. Ind. III. 128; Hf. Ind. Fl. I. 170. (*Polanisia icosandra*, WA. Prod. I. 22; Wight Ic. t. 2.).

HAB. A weed all over Burma from Chittagong and Ava down to Tenasserim, in cultivated lands, along river banks, in rubbishy places, ruined pagodas, etc. Fl. Fr. R. S.

Gynandropsis, DC.

1. G. PENTAPHYLLA, DC. Prod I. 238; Hf. Ind. Fl. I. 171. (*Cleome pentaphylla*, L. sp. pl.; Roxb. Fl. Ind. III. 126; A. Gray, Gen. t. 78; Bot. Mag. t. 1681).

HAB. A weed all over Burma from Chittagong and Ava down to Tenasserim, in rubbishy places, etc., around villages. Fl. May, June; Fr. June, July.

Niebuhria, DC.

1. N.? VARIABILIS, (*Capparis? variabilis*, Wall. Cat. 7004; Hf. Ind. Fl. I. 180).

HAB. Ava, in the Irrawaddi valley along the banks of the river below Yenang choung, and on the Segain hills.

Capparis, L.

Conspectus of species.

* Pedicels arising from above the axils of the leaves in a line one above the other (supra-axillary); or rarely axillary and solitary.

O Gynophore and ovary glabrous or nearly so.

† Ovary almost sessile, the gynophore being only ½ to 1 lin. long.

Glabrous; leaves large, chartaceous; pedicels 2—3 lin. long, the upper flowers forming terminal racemes (by the reduction of leaves), ...*C. roydsiæfolia.*

† † Ovary on a long slender gynophore.

× All parts glabrous.

Leaves as in preceding, chartaceous, much veined with a callous point at the usually retuse apex, ...*C. micracantha.*

Leaves acuminate.

Unarmed; pedicels and sepals outside glabrous; stamens numerous, petals pilose, ...*C. membranifolia.*

Thorny; pedicels glabrous; sepals woolly along the borders; stamens 8, ...*C. disticha.*

Unarmed or nearly so; sepals with tomentose margins, ...*C. vminica.*

× × Young shoots and sepals rusty or greyish tomentose or pubescent.

Leaves chartaceous, ovate, green, while young tawny or rusty pilose beneath, flowers usually several together, ...*C. horrida.*

Leaves green, oboval, while young thinly appressed pubescent, soon quite glabrous and coriaceous; petioles ½-¾ in. long; flowers several, ...*C. crassifolia.*

Leaves glaucous, rhomboid-ovate to rhomboid-linear, acute, while young minutely greyish puberulous beneath; petioles only ¼ to ½ in. long; berries verrucose; flowers solitary, ...*C. polymorpha.*

O O Gynophore and ovary densely tomentose.

All younger parts and leaves tomentose or pubescent; pedicels and sepals densely tomentose, ...*C. flavicans.*

* * Pedicels in umbels or corymbs in the axils of the leaves or on shortened axillary branchlets, sometimes collected into terminal or lateral panicles.

× Calyx and pedicels densely tomentose Ovary glabrous.

All parts tomentose or shortly and densely yellowish pubescent, the hairs not papillose; peduncle naked, ...*C. grandis.*

Apparently as preceding, but upperside of leaves papillose; peduncle 1-leaved at tip, ...*C. orbiculata.*

Branches brown-tomentose; leaves glabrous, 3-plinerved, ...*C. trinervia.*

× × Calyx and pedicels glabrous. Berry 1-seeded.

O Gynophore very short (in fruit not above ½ in.); umbels or corymb peduncled.

Branchlets pubescent; leaves thick coriaceous, glaucous, retuse or blunt; umbels axillary, berries 1—2 seeded, ...*C. glauca.*

Glabrous; leaves purplish beneath, acuminate; umbels in terminal panicles, berries 1-seeded, ...*C. Hasseltiana.*

O O Gynophore long and slender.

† Umbels or corymbs peduncled.

Glabrous; leaves green, retuse; flowers ½ in. in diameter, the umbels arranged in terminal panicles; berries several-seeded, ...*C. floribunda.*

Glabrous; petiole puberulous; flowers 2 in. in diameter, ...*C. versicolor.*

† † Umbels sessile or nearly so.

Leaves green, retuse; corymbs usually terminal on the branchlets, many-flowered, ...*C. sepiaria.*

1. C. MICRACANTHA, DC. Prod. I. 247; Hf. Ind. Fl. I. 179. (*C. callosa*, Bl. Bydr. 53; Miq. Ill. Fl. Arch. Ind. I. 29. t. 16.)

HAB. Pegu, Rangoon (R. Scott); Upper Tenasserim, Weingo valley, Moulmein (Wall., Falc.)

2. C. MEMBRANIFOLIA, Kurz MS.

HAB. Not unfrequent in the tropical forests of the eastern slopes of the Pegu Yomah and Martaban. Fl. Apr. May.

3. C. VIMINEA, Hf. and Th. Ind. Fl. I. 179.

HAB. Tenasserim (teste Hf. and Th.).

4. C. DISTICHA, Kurz MS. (*C. oxyphylla*, Wall Cat. 6997, non Miq.).

HAB. Frequent in the swamp-forests and inundated localities of the Irrawaddi and Sittang alluvium and Martaban. Fl. Apr. May.

5. C. HORRIDA, L. f. Suppl. 264; Wight Ic. t. 173; Griff. Not. Dicot. 579. t. 608; Hf. Ind. Fl. I. 178 pp. (*C. Zeylanica*, Roxb. Fl. Ind. II. 567.)

HAB. Frequent in mixed forests and savannahs, but more especially in the dry forests of Prome and Pegu; also Martaban. Fl. Apr. May.

6. C. CRASSIFOLIA, Kurz in Journ. As. Soc. Beng., 1873.

HAB. Frequent in the dry forests of Prome District. Fl. March.

7. C. POLYMORPHA, Kurz in Journ. As. Soc. Beng., 1873.

HAB. Frequent in the dry and Eng forests of Prome district. Fl. March; Fr. Apr. May.

8. C. FLAVICANS, Wall. Cat. 7003; Kurz in Journ. As. Soc. Bengal 1870, 62; Hf. Ind. Pl. I. 180.

HAB. Ava, Irrawaddi valley at Yenangchoung and Segain (Wall.) Fr. Sept.

9. C. GRANDIS, L. f. Mant. 263; Hf. Ind. Fl. I. 176. (*C. bisperma*, Roxb. Fl. Ind. II. 568 teste Hf. Th.) var. β. AURICANS, the nerves beneath more prominent; flowers only ⅓ to ½ in. in diameter (*C. auricans*, Kurz MS).

HAB. Frequent in the dry forests of the Prome District. Fl. Apr.

The Burmese plant will most probably have to form a distinct species, if it should not turn out to be identical with the following, of which the description in Hook. Ind. Fl. is too imperfect for recognition.

10. C. ORBICULATA, Wall. ap. Hf. Ind. Fl. I. 176.

HAB. Ava, Segain hills.

11. C. TRINERVIA, Hf. and Th. Ind. Fl. I. 175.

HAB. Tenasserim (Helf.); Tavoy (Parish).

12. C. GLAUCA, Wall. Cat. 7005; Hf. Ind. Fl. I. 180.

HAB. Ava, common near pagodas at Pagha myo (Wall.).

13. C. HASSELTIANA, Miq. Ill. Fl. Arch. Ind. I. 24. t. 13. (*C. ambigua*, Kurz in And. Rep. ed. 2. 30.)

HAB. In the tropical forests of South Andaman. Fr. Apr. May.

14. C. FLORIBUNDA, Wight Ill. I. 33. t. 14.; Hf. Ind. Fl. I. 177. (*C. oligandra*, Griff. Not. Dicot. 577. teste Hf. and Th.).

HAB. Tenasserim, Mergui (Griff.).

15. C. VERSICOLOR, Griff. Not. Dicot. 577; Hf. Ind. Fl. I. 175.

HAB. Tenasserim, Mergui, in forests (Griff.). Fl. Jan.

I have not seen specimens, but it cannot be compared with *C. Salaccensis*, Bl., which has small flowers, (cf. Miq. Illustr. Fl. Arch. Ind. I. t. 12).

16. C. SEPIARIA, L. sp. pl. 720; Roxb. Fl. Ind. II. 568; Jacquem. Voy. Ind. or. t. 22.; Hf. Ind. Fl. I. 177.

HAB. Common along the rocky coast of the Andamans; Pegu (teste Hf. and Th.). Fl. May.

Crataeva, L.

Conspectus of species.

Flowers corymbose; fruits globular; large tree; ovary globular, ... *C. Roxburghii.*
Flowers corymbose; fruits ovoid-oblong; ovary oblong, ... *C. narvala.*
Flowers solitary, axillary; fruits oblong; meagre shrub, ... *C. hygrophila.*

1. C. ROXBURGHII, Br. in Denh. and Clapp. Trav. Append. 224; Hook. Icon. Pl. t. 178; Kurz in Trim. Journ. Bot., 1874, 195, t. 148, f. 1—5. (*Capparis trifoliata*, Roxb. Fl. Ind. II. 571.).

HAB. Not unfrequent in the dry forests of the Prome District; Upper Tenasserim. Fl. H. S.; Fr. Close of R. S.

2. C. NARVALA, Ham. in Linn. Trans. XV; Kurz in Trim. Journ. Bot., 1874, 195.

HAB. Tenasserim, Moulmein District. Fl. Febr. March.

3. C. HYGROPHILA, Kurz in Journ. As. Soc. Beng., 1872, 292 and in Trim. Journ. Bot., 1874, 196, t. 148, f. 6—7.

HAB. Not uncommon in the swamp forests of the Irrawaddi alluvium. Fl. (Decb. or Nov. ?); Fr. C. S.

Roydsia, Roxb.

Conspectus of species.

Subg. 1. *Eu-Roydsia.* Styles 3, short, sessile.
Sepals a line long, 4 of them free, the 2 others coherent, ... *R. obtusifolia.*
Subg. 2. *Alytostylis*, Hf. Style long, terminated by 3 minute stigmas. Sepals ligulate. blunt, ... *R. parviflora.*

1. R. OBTUSIFOLIA, Hf. and Th. Ind. Fl. I. 180 and 409.

HAB. Frequent in the swamp forests and along inundated river banks of the alluvial lands of the Irrawaddi and Sittang rivers; also Tenasserim. Fl. March; Fr. May, June.

2. R. PARVIFLORA, Griff. Not. Dicot. 578. t. 607. f. 1.; Hf. Ind. Fl. I. 409.

HAB. Ava, in woods near the serpentine mines at Hookum (Griff.).

MORINGACEÆ.

Moringa, Juss.

1. M. PTERYGOSPERMA, Gaertn. Fruct. II. 314. t. 147; Wight Ill. I. t. 77; Miq. Fl. Ind. Bot. I. 350. (*Hyperanthera Moringa*, Vhl. Symb. I. 30; Griff. Not. Dicot. 572. t. 609 f. 1—2).

HAB. Cultivated in and around villages all over Burma and the adjacent islands. Fl. Febr. March; Fr. H. S.

A most perplexing genus to systematists. It appears to me nearest allied to *Violaceæ*.

VIOLACEÆ.

Conspectus of genera.

Trib. I. VIOLEÆ. Corolla irregular, the lower petal much larger. Herbs or perennials.

1. VIOLA. Sepals produced at base. Lower petal spurred or saccate.

2. JONIDIUM. Sepals not produced at base. Petals clawed, the lower one gibbous or saccate at base.

Trib. II. ALSODEIEÆ. Corolla regular or nearly so. Shrubs or trees.

3. ALSODEIA Petals 5, free. Connective produced beyond the anther. Capsule loculicidal.

Viola, L.

Conspectus of species.

× Stigma 3-lobed, terminal.

Without stolons; stigma 3-lobed; stipules entire, ...*V. Patrinii.*

Stoloniferous; stigma 2-lobed; stipules toothed, ...*V. diffusa.*

× × Stigma very oblique or quite lateral.

Stoloniferous; stipules toothed or fimbriate, ...*V. serpens.*

1. V. PATRINII, DC. Prod. I. 293; Hf. Fl. Ind. I. 183. (*V. primulifolia*, L. sp. pl. p. p.; Roxb. Fl. Ind. I. 650; *V. Walkerii*, Wight Ill. I. 42. t. 18).

HAB. Ava, Khakyen hills, Ponsee (J. Anderson). Fl. March.

2. V. DIFFUSA, Ging in DC. Prod. I. 298; Hf. Ind. Fl. I. 183.

HAB. Ava, Khakyen hills, Ponsee (J. Anderson). Fl. Fr. March.

3. V. SERPENS, Wall. in Roxb. Fl. Ind. II. 449; Oudem. in Miq. Ann. Mus. Lugd. Bot. III. 76; Hf. Ind. Fl. I. 184; Royle Ill. Him. Pl. 74. t. 18. f. 1.

HAB. Ava, Khakyen hills (J. Anderson); not unfrequent in the damp hill-forests along rocky rivulets in Martaban at 3000 to 6000 ft. elevation; Tenasserim, Moulmein (Parish). Fl. Fr. March.

Jonidium, Vent.

1. J. SUFFRUTICOSUM, Ging in DC. Prod. I. 311; Wight Ill. t. 19 and Ic. t. 308; Hf. Ind. Fl. I. 185. (*Viola suffruticosa*, L.; Roxb. Fl. Ind. I. 649).

HAB. I have observed only a few sterile plants along a road in Rangoon.

Alsodeia, Thouars.

Conspectus of species.

Subg. 1. *Dioryctandra*, Hassk. Stamens exserted, anthers cohering in a cone.
Leaves small; capsules very small, almost sessile, ...*A. Roxburghii.*
Subg. 2. *Alsodeia.* Stamens included; anthers free.
× Ovary and style glabrous.
O Flowers in long racemes.
Racemes and calyx puberulous, ...*A. longiracemosa.*
O O Flowers fascicled.
Pedicels and calyx glabrous, ...*A. Bengalensis.*
× × Ovary and style pubescent or tomentose.
Leaves rather large, glabrous or nearly so, ...*A. Griffithii.*
Leaves pubescent; capsule densely pubescent, ...*A. mollis.*

1. A. ROXBURGHII, Wall. Cat. 7189; Hf. Ind. Fl. I. 186. (*Vareca heteroclita*, Roxb. Fl. Ind. I. 648).

HAB. Not unfrequent in the tropical forests of the Andamans. Fl. May, June.

2. A. LONGIRACEMOSA, Kurz in Journ. As. Soc. Beng. 1870, 63. (*A. racemosa*, Hf. and Th. Ind. Fl. I. 186. non Mart.).

HAB. Rather frequent in the tropical forests of Martaban up to 1500 ft. elevation. Fl. March, Apr.; Fr. May, June.

3. A. BENGALENSIS, Wall. Act. Med. and Phys. Soc. Calc. VII. 224; Hf. Ind. Fl. I. 186.

HAB. Not unfrequent in the tropical forests of the eastern slopes of the Pegu Yomah and Martaban, entering here also the drier hill forests up to 4000 ft. elevation; common on the Andamans. Fl. H. S.

4. A. GRIFFITHII, Hf. and Th. Ind. Fl. I. 187.

HAB. Ava, near the serpentine mines in the Hookum valley (Griff.).

5. A. MOLLIS, Hf. and Th. Ind. Fl. I. 188.

HAB. Tenasserim, Mergui (Griff.).

BIXINEÆ.

Conspectus of genera.

Trib. I. BIXEÆ. Petals broad, twisted in bud, without a scale or basal appendage. Anthers opening by pores or short slits.

1. COCHLOSPERMUM. Capsule 3-valved. Seeds cochleate, pilose or woolly. Leaves palmately-lobed or digitate.

2. Bixa. Capsule 2-valved. Seeds straight, glabrous, with a pulpy testa. Leaves simple.

Trib. II. FLACOURTIEÆ. Petals none, or if present only small, imbricate in the bud, without scales. Anthers opening by valves.

* Petals present.

3. Scolopia. Flowers bisexual. Petals 4 to 6. Stamens indefinite.

* * Petals none.

4. Flacourtia. Flowers usually dioecious. Ovary 2- to 8-celled.

5. Xylosma. Flowers dioecious. Ovary 1-celled. Seeds glabrous.

Trib. III. PANGIEÆ. Flowers dioecious. Petals with an adnate scale or basal appendage.

* Calyx at first entire, afterwards splitting variously.

6. Gynocardia. Calyx cup-shaped. Stamens numerous, free. Styles 3 with cordate stigmas.

7. Ryparia. Calyx globose, rupturing into 3 to 4 deciduous segments. Stamens 4 or 5, united in a tubular column.

× × Sepals distinct already in bud, much imbricated.

8. Hydnocarpus. Sepals 4 or 5. Petals 5—9. Stamens 5 or indefinite.

Cochlospermum, Ktli.

1. C. Gossypium, DC. Prod. I. 527; Wight Ill. Ind. Bot. Suppl. 36. t. 18; Hf. Ind. Bot. I. 190. (*Bombax gossypium*, L.; Roxb. Fl. Ind. III. 169.

Hab. In the dry forests on the hills opposite Prome. Fl. March.

Bixa, L.

*1. B. Orellana, L. sp. pl. 730; Roxb. Fl. Ind. II. 581; Wight Ill. I. t. 17; Bot. Mag. t. 1456; Griff. Not. Dicot. 610; Hf. Ind. Fl. I. 190.

Hab. Frequently cultivated in and around villages all over Burma, and occasionally seen half wild along the courses of mountain streams in the Pegu Yomah.—Fl. RS; Fr. CS.

Scolopia, Schreb.

1. S. Roxburghii, Clos in Ann. d. sc. nat. ser. 4. VIII. 250 excl. syn.; Hf. Ind. Fl. I. 190. (*Ludia spinosa*, Roxb. Fl. Ind. II. 507.)

Hab. Tenasserim, Mergui (Griff. Helf. 211.)

Roxburgh's plant is described as having lucid leaves, but his figure as well as the plant cultivated in the HBC. have them opaque when dried.

Flacourtia, Comm.

Conspectus of species.

* Stigma simple, subulate (not thickened at apex).

Berries the size of a pepper-kernel; pyrenes smooth, convex on back, ...*F. Sumatrana.*

* * Styles short or almost wanting, thickened and truncate at the apex or more or less bluntish 2-lobed.

O Pyrenes compressed and quite flat.

Branchlets and leaves glabrous or nearly so, armed with spines; flowers dioecious, ...*F. cataphracta.*
As preceding but not armed; flowers hermaphrodite, ...*F. inermis.*
O O Pyrenes obovoid-3-angular with rounded back.
× Leaves acuminate.
Branchlets and leaves tawny-pubescent, ... *F. mollis.*
× × Leaves blunt or nearly so. Berries the size of a pea.
Leaves coriaceous, 3 to 5 in. long, ...*F. sapida.*
Leaves small (1—1½ in. long), membranous.
Armed with numerous long spines, ...*F. sepiaria.*
Unarmed, or only with a few short axillary spines, ...*F. rotundifolia.*

1. F. SUMATRANA, Planch. ap. Hf. Ind. Fl. I. 192.

HAB. Tenasserim (Helf. 203-1).

N. B. *Ludia foetida*, Roxb., doubtfully referred by Hf. to this species, is *Homalium foetidum*, Bth.

2. F. CATAPHRACTA, Roxb. Corom. Pl. III. t. 222 and Fl. Ind. III. 834; Hf. Ind. Fl. I. 193.

HAB. Frequent in the upper mixed forests of the Pegu Yomah and Martaban. Fl. Jan. Febr.; Fr. May.

3. F. INERMIS, Roxb. Corom. Pl. III. 16 t. 222 and Fl. Ind. III. 833; Hf. Ind. Fl. I. 192.

HAB. Martaban, along the bank of the Toukyeghat river at the 7-Pagodas. Fr. May.

4. F. MOLLIS, Hf. and Th. Ind. I. 192.

HAB. Tenasserim (Helf. 215; Griff.).

5. F. SAPIDA, Roxb. Corom. Pl. I. t. 69 and Fl. Ind. III. 835; WA. Prod. I. 29.

Var. α. GENUINA, young shoots and leaves beneath and the inflorescences more or less greyish tomentose; stigmas in fruit remote.

Var. β. PUBERULA, leaves and young shoots glabrous; inflorescence puberulous; stigmas star-like cohering, sessile.

Var. γ. GLABERRIMA, all parts quite glabrous, stigmas only cohering during flowering.

HAB. Var. α. Ava (Griff.); var. β. and γ. common in the dry and Eng forests of the Prome District. Fl. Febr. March; Fr. Apr. May.

6. F. SEPIARIA, Roxb. Corom. Pl. I. t. 68 and Fl. Ind. III. 835; Hf. Ind. Fl. I. 194. (F. *obcordata*, Roxb. Fl. Ind. III. 835 teste Hf. and Th.).

HAB. Chittagong.

7. F. ROTUNDIFOLIA, Clos in Ann. sc. nat. Bot. ser. 4. VIII. 218.

HAB. Rather frequent in the coast jungles of the Andamans. Fl. May.

Gynocardia, R. Br.

1. G. ODORATA, Roxb. Corom. Pl. III. 95. t. 299; Hf. Ind. Fl. I. 195. (*Choulmoogra odorata*, Roxb. Fl. Ind. III. 836).

HAB. Not unfrequent in the tropical forests of the Martaban hills, up to 3000 ft. elevation; also Chittagong (accord. Hf. and Th. also Rangoon and Tenasserim). Fr. March.

Ryparia, Bl.

1. R. CÆSIA, Bl. Fl. Jav. Praef. 8; Miq. Fl. Ind. Bot. I-2. 361; Kurz in Trim. Journ. Bot., 1873, 233.

HAB. In the tropical forests of South Andaman.

Hydnocarpus Gærtn.

Conspectus of species.

Sepals 4; petals and staminods 9—5 each, the latter free or united, ...*H. heterophyllus.*
Sepals 5; petals and staminods 5 each, ...*H. castaneus.*

1. H. HETEROPHYLLUS, Bl. Rumph. IV. 22. t. 178. B. f. 1. (*Taractogenos Blumei*, Hassk. Retz. I. 127; Miq. Fl. Ind. Bat. I/2. 110).

HAB. Very frequent in the tropical forests of Martaban, less so along the eastern and southern slopes of the Pegu Yomah; also Tenasserim. Fl. Apr.; Fr. Febr. March.

The number of sepals appears constant, but that of stamens, petals, and scales varies exceedingly; the last are found free and more or less connate in flowers from the same tree.

2. H. CASTANEUS, Hf. and Th. Ind. Fl. I. 197.

HAB. King's Island, by the sides of torrents, (Andamans according to Hf. and Th. but more probably Mergui Archipelago where such an island exists).

PITTOSPOREÆ.

Pittosporum, Banks.

1. P. FERRUGINEUM, Ait. Hort. Kew. ed. 2. II. 27; Bot. Mag. t. 2074; Hf. Ind. Fl. I. 199.

HAB. Tenasserim, Moulmein.

POLYGALEÆ.

Conspectus of genera.

Trib. I. POLYGALEÆ. Seeds albuminous. Petals more or less united into a gamopetalous corolla.

O Erect herbs or perennials, rarely parasites.

1. POLYGALA. Stamens 8, united. The 2 inner sepals wing-like
2. SALOMONIA. Stamens 4 or 5. Sepals almost equal, petal-like.

O O Scandent shrubs.

3. SECURIDACA. Stamens 8, united; fruit an 1-celled indehiscent samara.

Trib. II. XANTHOPHYLLEÆ. Albumen none. Petals and stamens free. Fruit globular, indehiscent.

4. XANTHOPHYLLUM. Petals 5. Stamens 8. Ovary almost 1-celled, with several ovules.

Polygala, L.

Conspectus of species.

Subg. 1. *Blepharidium.* The 2 inner sepals (wings) persistent, petaloid or herbaceous.

* Wings herbaceous or green, sepal-like, not or with a narrow hyaline margin, acute or acuminate.

Erect, stout, 1 to 2 ft. high; bracts fallen before flowering. Flowers small, white with purple tips; capsule ciliate, ...*P. glomerata.*

Small, a few in. high; flowers and bracts as in preceding; capsule glabrous, not ciliate, ...*P. telephioides.*

Small; flowers yellow or orange-yellow with dull orange tips; bracts persistent during flowering, ...*P. Chinensis.*

* * Wings petal-like and coloured, blunt and often mucronate.

O Stems terete.

Wings about a lin. long, usually puberulous; capsules oblong, puberulous, not margined, ...*P. erioptera.*

Wings about 3 lin. long, puberulous; capsules almost orbicular with narrow ciliate margin, ...*P. crotalarioides.*

O O Stems sharply angular.

Erect, glabrous; leaves linear; flowers small, in terminal and lateral racemes, *P. leptalea.*

Subg. 2. *Semeiocardium,* Zoll. Calyx deciduous after flowering. Keel not crested. Seeds albuminous. Flowers small.

Capsules not nerved, almost rotundate, not winged, ...*P. glaucescens.*

Capsules strongly nerved, oblong, the membranous borders produced wing-like at the summit, ...*P. cardiocarpa.*

Subg. 3. *Chamæbuxus,* Tournef. Calyx deciduous. Keel crested. Albumen none. Flowers rather large. Perennials or shrubs.

Flowers pale-lilac; keel-crest 2-lobed, the lobes entire, ...*S. venenosa.*

Flowers pale-lilac; keel-crest 2-lobed, the lobes many-cleft: capsules membranous; strophiole minute, ...*P. Karensium.*

Flowers yellow; keel-crest 2-lobed, the lobes many-cleft; capsule coriaceous; strophiole very large, ...*P. arillata.*

1. P. GLOMERATA, Lour. Fl. Coch. II. 518; Miq. Fl. Ind. Bot. I/2. 125; Hf. Ind. Fl. I. 206.

HAB. Frequent in deserted hill-toungyas and pastures of the Martaban hills, up to 4000 ft. elevation. Fl. Febr. March; Fr. March.

2. P. TELEPHIOIDES, Willd. sp. pl. III. 876; Hf. Ind. Fl. I. 205.

HAB. Rare in the Eng forests of the western slopes of the Pegu Yoma as for instance about Myodweng. Fl. Jan.

Hardly more than a stunted variety of the former.

3. P. CHINENSIS, L. sp. pl. 989; DC. Prod. I. 331; Hf. Ind. Fl. I. 204. (*P. arvensis,* Willd. sp. pl. III. 876; Roxb. Fl. Ind. III. 218).

HAB. Pegu (teste Bennet). Fl. R. S.

4. P. ERIOPTERA, DC. Prod. I. 326; Deless. Ic. sel. III. t. 15; Hf. Ind. Fl. I. 203.

HAB. Apparently frequent in Ava (Yenangchoung, Paghan, Melloon, etc.); Prome hills. Fl. Fr. Sept. Decb.

5. P. CROTALARIOIDES, Ham. in Don. Prod. Nep. 199; Wall. Pl. As. rar. II. t. 185; Royle Ill. Him. Pl. t. 19, fig. c.; Hf. Ind. Fl. I. 201.

HAB. Rather frequent in the Eng and dry forests of the Prome district. Fl. Fr. March.

6. P. LEPTALEA, DC. Prod. I. 325; Bth. Fl. Austr. I. 139; Hf. Ind. Fl. I. 202. (P. sp. 1 and 2, Griff. Not. Dicot. 536-537. t. 597).

HAB. Not unfrequent in the open, especially the Eng forests of Pegu, Prome, and Ava. Fl. Nov. Decb.

7. P. GLAUCESCENS, Wall. Cat. 4182; Walp. Rep. I. 234. (*P. furcata*, Royle Ill. Him. Pl. 76. t. 19, fig. B.; *Semeiocardium glaucescens*, Hassk. in Miq. Ann. Lugd. Bat. I. 151; *P. triphylla β. glaucescens*, Bennet in Hf. Ind. Fl. I. 201).

HAB. Ava, Meaong and Taong dong; Prome District; Tenasserim, Attaran. Fl. Fr. July—Sept.

8. P. CARDIOCARPA. Kurz in Journ. As. Soc. Beng. 1872, 293.

HAB. Tenasserim, Wakabin (Rev. C. Parish No. 307). Fl. Octob.

9. P. KARENSIUM, Kurz in Journ. As. Soc. Beng. 1872, 292.

HAB. Frequent in the drier hill-forests of the Martaban hills at 4000 to 6000 ft. elevation. Fl. Fr. March.

10. P. ARILLATA, Ham. in Don. Prod. Nep. 199; Wall. Pl. As. rar. I. t. 100; Griff. Not Dicot. 5352; Hf. Ind. Fl. I. 200).

HAB. Ava (teste Bennet).

Salomonia, Lour.

Conspectus of species.

Subg. 1. *Salomonia*, DC. Stems leafy; not parasitic.

O Leaves on short petioles, cordate or ovate.

Glabrous; leaves acute; capsules crested, ...*S. Cantoniensis.*
Blunt leaves and stems along the wings fringed; capsules crested, ...*S. longiciliata.*
Glabrous; leaves acute; capsules minute, not crested, ...*S. edentula.*

O O Leaves sessile.

Glabrous or nearly so, leaves oblong to oblong-lanceolate, ...*S. oblongifolia.*
Subg. 2. *Epirhizanthes*, Bl. Parasitic, leafless or scaly, ...*S. cylindrica.*

1. S. CANTONIENSIS, Lour. Fl. Coch. 18; Hf. Ind. Fl. I. 206. (*S. sp.* Griff. Not. Dicot. 539).

HAB. Pegu, Rangoon (R. Scott); Tenasserim, Tavoy (Wall). Fl. Fr. Aug.

2. S. LONGICILIATA, Kurz in Journ. As. Soc. Bengal, 1872, 292.

HAB. Sporadic in the Eng forests along the western slopes of the Pegu Yomah, for inst. between Pansuay and Myodweng. Fl. Fr. Decbr. Jan.

3. S. OBLONGIFOLIA, DC. Prod. I. 334; Deless. Ic. sel. III. t. 19; Hf. Ind. Fl. I. 207. (*S. obovata*, Wight Ill. I. t. 22.; *S. angulata*, Griff. Not. Dicot. 539. t. 585. A. f. 16?).

HAB. Tenasserim, Tavoy (Wall).

4. S. CYLINDRICA, (*Epirhizanthes cylindrica*, Bl. Regensb Flor. 1825. 134; Miq. Fl. Ind. Bat. I/2. 128 t. 15; *S. aphylla*, Griff. in Linn. Trans. XIX. 342; Hf. Ind. Fl. I. 207; *S. parasitica*, Griff. Not. Dicot. 538. t. 598. f. 5).

HAB. Tenasserim, on bamboo-trunks between decayed wood rather frequent about Mergui, Palar. (Griff.). Fl. Octob.

Securidaca, L.

1. S. INAPPENDICULATA, Hassk in Pl. Jav. rar. 295, (*S. Tavoyana*, Wall. Cat. 4196, nomen nudum; Hf. Ind. Fl. I. 208. *S. scandens* Ham. in Wall. Cat. 4195, non Jacq. *S. paniculata*, Roxb. Fl. Ind. III. 219, non Lamk).

HAB. Chittagong; Arracan (Capt. Marcgrave); Tenasserim, Tavoy (Wall). Fl. Aug.

Xanthophyllum, Roxb.

Conspectus of species.

* Ovary sessile (*i. e.* the stalk not exserted from the annular disk).
O Panicle remotely supra-axillary (and terminal).
Leaves glaucous and rather opaque beneath; panicles diffuse, glabrous; calyx and slender pedicels glabrous; ovary minutely pubescent, the stigma broadly 2-lobed,...*X. virens*.
O O Panicles or racemes truly axillary (and terminal).
× Ovary and style villous. (Leaves glaucescent beneath).
Panicles tawny puberulous; pedicels thick, 1½-2 lin. long, puberulous, ...*X. eglandulosum*.
Racemes slender, in lax tomentose panicles; pedicels slender, ...*X. glaucum*.
× × Ovary glabrous, the style slender pubescent.
Panicle diffuse, greyish velvety; fruit glabrous; leaves glossy, drying yellowish like *Symplocos*, ...*X. flavescens*.
* * Ovary shortly stalked.
Leaves rather large; racemes simple or in short robust axillary panicles, greyish velvety; ovary glabrous with a very thick villous style, ...*X. affine*.

1. X. VIRENS, Roxb. Corom. Pl. III. t. 284 and Fl. Ind. II. 221.

HAB. Not unfrequent in the evergreen tropical forests of the Pegu Yomah and Martaban, up to 3000 ft. elevation. Fl. Febr. March.

2. X. FLAVESCENS, Roxb. Fl. Ind. II. 222. (*X. paniculatum*, Miq. Suppl Fl. Sum. I. 393).

HAB. Frequent in the swamp-forests of Martaban; Tenasserim, Moulmein down to Tavoy; also Chittagong. Fl. Febr. May; Fr. May.

X. flavescens as revised in Hf. Ind. Fl. is a mixture of species, but it is impossible to clear up the synonymy so long as the numbers of distributed collections are not given. No one would wish the numbers of all collections extant or references to common and well-known species, but in the case of new or critical species such might reasonably be looked for. *X. angustifolium*, Wight Ill. 50 t. 23, with simple or almost simple subaxillary racemes and a villous stalked ovary, is certainly not identical with Roxburgh's plant; besides, it is a small tree or rather shrub, while the latter is a timber-tree.

3. X. EGLANDULOSUM, Griff. Not. Dicot. 537 t. 598 f. 4. (*X. Griffithii*, Hf. Ind. Fl. I. 210.)

HAB. Tenasserim, Mergui (Griff.; Helf).

The leaves are described as very coriaceous just as those of *X. insignis* (to which I doubtfully refer Maingay's plant No. 348 distributed as *Carapa* sp.); if this be really so, I fear that I have not seen the true species, for in my specimens they are hardly more coriaceous than those of *X. flavescens*. The Andaman specimens in leaf only, wrongly named by me *X. glaucum*, would probably come here or be referable to *X. virens*.

4. X. GLAUCUM, Wall. Cat. 4199; Hf. Ind. Fl. I. 209.

HAB. Common in the swamp-forests and around inundated jungle-swamps of the alluvial plains and base of hills of Pegu and Martaban; also Tenasserim. Fl. March, Apr.

5. X. AFFINE, Bennet in Hf. Ind. Fl. I. 209, vix Korth.

HAB. Tenasserim, Mergui.

Wall. Cat. 4198 is cited for this species, but the specimens B from Tenasserim as far as seen by me have a sessile ovary and are referred by me to *X. flavescens*, while A. from Penang is here understood to be the above plant.

CARYOPHYLLEÆ.

Conspectus of genera.

Trib. I SILENEÆ. Calyx gamosepalous, 4- to 5-lobed. Petals and stamens hypogynous, often raised on a stalk-like torus. Styles distinct from the base. Stipules none.

1. GYPSOPHILA. Calyx turbinate-tubular or bell-shaped, broadly and almost wingedly 5-nerved. Capsule deeply 4-valved. Styles usually 2.

Trib. II. ALSINEÆ. Sepals free. Stamens inserted on an annular disk, rarely perigynous. Styles free.

2. BRACHYSTEMMA. Petals entire. Capsules depressed, 1-seeded. Styles 2. Stipules none.

Trib. III. POLYCARPEÆ. Sepals free. Stamens inserted on an annular disk. Styles united Stipules scarious.

3. DRYMARIA. Petals lobed. Sepals not keeled. Style very short.

4. POLYCARPON. Sepals keeled. Petals entire. Style short.

5. POLYCARPÆA. Sepals not keeled, scarious. Petals entire or notched. Style elongate.

Gypsophila, L.

1. G. VACCARIA, Smith in Sibth. Fl. Græc. t. 380 ; WA. Prod. I. 42. (*Saponaria Vaccaria*, L. sp. pl. 583 ; Bot. Mag. t. 2290 Hf. Ind. Fl. I. 217 ; *Saponaria perfoliata*, Roxb. Fl. Ind. II. 445.)

HAB. South Andaman, in a cultivated field near Aberdeen, introduced. Fl. May.

Brachystemma, Don.

1. B. CALYCINUM, Don Prod. Nep. 646 ; Fenzl. Atakt. t. 16 ; Hf. Ind. Fl. I. 937.

HAB. Ava, Khakyen hills, near Ponline (J. Anderson). Fl. March.

Drymaria, Willd.

1. D. CORDATA, Willd. ap. Roem. and Schult. syst. veg. V. 406 ; Hf. Ind. Fl. I. 244. (*Cerastium cordifolium*, Roxb. Fl. Ind. II. 458).

HAB. Rather frequent in hill-toungyas and betel-nut gardens of Martaban, at 2000 to 5000 ft. elevation ; also Ava, Bhamo. Fl. Febr. March.

Polycarpon, L.

1. P. LŒFLINGIÆ, Bth. and Hf. Gen. Pl. I. 153 ; Hf. Ind. Fl. I. 245. (*Pharnaceum depressum*, L. Mant. 564 ; *Lœflingia Indica*, Retz. Obs. 48 ; Roxb. Fl. Ind. I. 165).

HAB. Very frequent in agrarian lands, banks of rivers, etc., of Pegu and Martaban ; also Tenasserim, Chittagong and Arracan. Fl. May, June.

Polycarpæa, Lour.

1. P. CORYMBOSA, Lamk. Ill. No. 2798 ; Wight Ic. t. 712 and Ill. II. t. 110 ; Hf. Ind, Fl. I. 245. (*Celosia corymbosa*, Roxb. Fl. Ind. I. 681 ; *P. marginata*, Prsl. Bot. Bemerk. 141 ; Walp. Ann. I. 83).

HAB. Ava, on limestone near Segain and Pagha myo ; Prome ; Tenasserim, Moulmein. Fl. Dec. Jan.

PORTULACACEÆ.

Conspectus of genera.

1. PORTULACA. Ovary half-inferior, with the petals and stamens perigynous.
2. TALINUM. Ovary free. Sepals usually deciduous. Seeds caruncled.

Portulaca, L.

Conspectus of species.

Joints glabrous ; flowers clustered by 3 to 5, ...	...*C. oleracea.*
Joints pilose ; flowers solitary, ...	*C. quadrifida.*

1. P. OLERACEA, L. sp. pl. 638 ; Roxb. Fl. Ind. II. 463 ; Hf. Ind. Fl. I. 246 ; Sibth. Fl. Græc. t. 457 ; DC. Pl. grass. t. 123 ; Gray Gen. t. 99.

Hab. Common all over Burma in cultivated lands, waste places, on roads, etc. Fl. ∞.

2. P. quadrifida, L. Mant. 78; Roxb. Fl. Ind. II. 464; Wight Ill. II. t. 102; Hf. Ind. Fl. I. 247. (*C. meridiana*, L Suppl. 248; Roxb. l. c. 463).

Hab. Pegu, in waste places, on roads, etc.; Ava. Fl. C. & R. S.

Talinum, Adans.

1. T. cuneifolium, Willd. sp. pl. II. 864; Roxb. Fl. Ind. II. 465; Hf. Ind. Fl. I. 247.

Hab. Ava, on the Pagodas at Pagha myo (Wall. 6846).

TAMARISCINEÆ.

Tamarix, L.

Conspectus of species.

Leaves appressed to the terete almost simple branchlets and branches; flowers sessile, rose-coloured, in dense short spikes, ...*T. dioica.*

Leaves somewhat spreading on the very short thin and branched branchlets; flowers pedicelled, white, in loose slender terminal or variously lateral racemes, ...*T. gallica.*

1. T. dioica, Roxb. Fl. Ind. II. 101; Griff. Not. Dicot. 465, t. 577. f. 2.; Hf. Ind. Fl. I. 249.

Hab. Ava, in the hills opposite Pagha Myo. Fl. C. S.; Fr. R. S.

2. T. Gallica, L. sp. pl. 386; Wight Ill. t. 24 f. 1.; Hf. Ind. Fl. I. 248. (*T. Indica*, Willd. in Act. Not. Cur. Berol, IV. 214; Roxb. Fl. Ind. II. 100).

Hab. Rather frequent in the tidal savannahs and tidal forests of Lower Pegu. Fl. R. S.; Fr. C. S.

ELATINEÆ.

Conspectus of genera.

Trib. I BERGIEÆ. Ovary-cells with several ovules. Albumen none. Perianth complete. Fruit a capsule.

1. Bergia. Sepals acute. Flowers usually 5-merous. Capsule almost crustaceous, septicidal or septifragal.

Trib. II. HIPPURIDEÆ. (incl. *Callitricheæ ?*). Ovary-cells with a solitary ovule. Perianth complete or incomplete. Seeds albuminous. Fruit a drupe.

2. Myriophyllum. Calyx truncate or 4-toothed. Petals 2—4 or none. Stamens 2—3. Ovary deeply 2- or 4-sulcate; stigmas 2 or 4, blunt or feathery. Drupe separable into 2 or 4 nut-like carpels.

Trib. III. CERATOPHYLLEÆ. Flowers unisexual. Perianth 12-phyllous. Ovary 1-celled, with a solitary ovule. Fruit a nut.

3. Ceratophyllum. Stamens several. Styles 2. Fruit a nut.

Bergia, L.

Conspectus of species.

Glabrous; flowers white, sessile, ...*B. verticillata.*

Pubescent or hirsute; flowers rose-coloured, shortly pedicelled, ...*B. ammannioides.*

1. B. VERTICILLATA, Willd. sp. pl. II. 770; Roxb. Fl. Ind. II. 456; Hf. Ind. Fl. I. 252. (*B. aquatica*, Roxb Corom. Pl. II. t. 142).

HAB. Ava (Wall); Pegu, Rangoon. Fl. R. S.; Fr. C. S.

2. B. AMMANNIOIDES, Roxb. Fl. Ind. II. 457; Hf. Ind. Fl. I. 251. (*Elatine ammannioides*, WA. Prod. I. 41; Wight Ill. t. 25. A. and Suppl. 48. t. 28.).

HAB. Frequent all over Pegu in rice-fields, along river-banks, etc.; Tenasserim, Tavoy (Wall.). Fl. R. S.; Fr. C. S.

Myriophyllum, L.

Conspectus of species.

Carpels almost smooth, about ½ lin. long, only at base connate, the back obtuse, ...*M. tetrandrum.*

Carpels tubercled and muricate, sometimes almost echinate, wholly connate, about a line long, the back sharply angled, ...*M. tuberculatum.*

1. M. TETRANDRUM, Roxb. Fl. Ind. I. 451; DC. Prod. III. 69; W. A. Prod. I. 339; Miq. Fl. Ind. Bat. I. 634; Griff. Not. Dicot. 686. t. 644. f. 5.

HAB. Frequent in swamps and stagnant waters of the alluvial lands of Pegu; Chittagong, in ponds. Fl. Fr. Oct. to Jan.

2. M. TUBERCULATUM, Roxb. Fl. Ind. I. 471; DC. Prod. III. 69; Miq. Fl. Ind. I. 635. (*M. Indicum*, Griff. Not. Dicot. 687.)

HAB. Chittagong, in ponds. Fl. Fr. Oct.—Decb.

Ceratophyllum, L.

1. C. DEMERSUM, L. sp. pl. 1409; DC. Prod. III. 73; Bth. Fl. Austr. II. 491.

Var. α. DEMERSUM, (*C. demersum*, L. l. c), nuts smooth.

Var. β. TUBERCULATUM, (*C. tuberculatum*; Cham. in Linnæa IV. 504. t. 5. f. 6. d.; WA. Prod. I. 309; Miq. Fl. Ind. Bat. I. 799; Wight Ic. t. 1948. f. 3.; *C. verticillatum*, Roxb. Fl. Ind. III. 624).

HAB. Only var. β. not uncommon in ponds and stagnant waters of Chittagong; also in choungs and lakes of Pegu. Fr. Decb. Jan.

HYPERICINEÆ.

Conspectus of genera.

Trib. I. HYPERICEÆ. Capsules dehiscing septicidally. Seeds not winged.

1. HYPERICUM. Flowers 5-merous. Herbs or shrubs.

Trib. II. CRATOXYLEÆ. Capsules dehiscing loculicidally or sometimes both loculicidally and septicidally. Seeds winged.

2. CRATOXYLON. Flowers 5-merous. Stamens 3-adelphous. Ovules 4 or more to the cell.

Hypericum, L.

Conspectus of species.

* Shrubs with large flowers. Ovary 5-celled. Capsules 5-valved.
Stems terete or nearly so; styles 5, free, shorter than the ovary, . *H. Leschenaultii.*
* * Herbs with small flowers. Ovary 3-celled. Capsules 3-valved.
Stems terete; sepals glandular-ciliate, ...*H. elodeoides.*
* * * Herbs. Ovary 1-celled. Flowers small.
Stems 4-angular; sepals entire, ...*H. Japonicum.*

1. H. LESCHENAULTII, Chois in DC. Prod. I. 542; Deless. Icon. Select. III. 17. t. 27. (*H. triflorum*, Bl. Bydr. 142; *H. oblongifolium*, Hook. Bot. Mag. t. 4949; *H. Hookerianum*, WA. Prod. I. 99; Wight Ic. t. 949; Hf. Ind. Fl. I. 254).

HAB. Martaban, on and near the top of Nattoung, along the borders of the stunted hill forests, at 7000-7200 ft. elevation. Fr. March.

2. H. ELODEOIDES, Chois in DC. Prod. I. 551; Hf. Ind. Fl. I. 255. (*H. sp.* Griff. Not. Dicot. 569. t. 605. f. 1.)

HAB. Ava, (Griff.) Khakyen hills, Ponsee (J. Anderson). Fl. Aug. and March.

3. H. JAPONICUM, Thbg. Fl. Jap. 195. t. 31; Royle Ill. Him. Pl. t. 24. f. 2; Hf. Ind. Fl. I. 256.

HAB. Ava, Khakyen hills (J. Anderson); Martaban, Yoonzeleen, at 2500 ft. elevation (Brandis); Tenasserim (Helf. 837). Fl. March.

Cratoxylon, Bl.

Conspectus of species.

Subg. 1. *Tridesmis*, Spach. Petals furnished at base with a scale.
All parts glabrous, ...*C. formosum.*
Leaves beneath, pedicels and sepals pubescent, ... *C. pruniflorum.*
Subg. 2. *Ancistrolobus*, Spach. Petals without a basal scale.
* Flowers in axillary poor cymes or solitary.
Leaves thin chartaceous, acute or blunt; hypogynous glands present or absent, ...*C. polyanthum.*
* * Flowers in terminal panicles.
Leaves linear-oblong, usually almost sagittate-produced at base, chartaceous, *C. nervifolium.*
Leaves more or less obovate-oblong, coriaceous, ...*C. arborescens.*

1. C. FORMOSUM, Bth. and Hf. Gen. Pl. I. 166; Hf. Ind. Fl. I. 258. (*Tridesmis formosa*, Korth. in Verh. Nat Gesch. Bot. 179. t. 37.)

HAB. Rare in the tropical forests of South Andaman. Fl. May.

2. C. PRUNIFLORUM, Kurz MS. in Journ. As. Soc. Beng. 1872. 293. (*Tridesmis pruniflora*, Kurz l. c.; *Elodea pruniflora* (errore *prunifolia*) Wall. Cat. 7276; *C. prunifolium*, Dyer in Hf. Ind. Fl. 258).

HAB. Not unfrequent in the Eng forests of Martaban; Ava, on Taong dong; Tenasserim, Moulmein. Fl. Apr. May.

Dyer has changed my name into "*prunifolium*," which was a *calami lapsus* on the part of Wallich who autographically corrected it on the label of the plant in H. B. C. into "*pruniflora*," a name at once more suggestive and appropriate, for the full-grown leaves are all but *Prunus*-like.

3. C. POLYANTHUM, Korth. Verh. Nat. Gesch. Bot. 175. t. 36; Miq. Fl. Ind. Bot. I/2. 516; Hf. Ind. Fl. I. 257.

Var. *α.* GENUINUM, (var. *α.* and *β.* Dyer in Hf. Ind. Fl. l. c.) hypogynous glands present.

Var. *β.* CARNEUM (*C. carneum*, Kurz in Pegu Report; *Ancistrolobus carneus*, Wall. ap. Voigt Hort. Calc. 89) hypogynous glands entirely absent.

HAB. Var. *β.* Rather frequent in the hill Eng and drier upper mixed forests of Martaban, up to 3000 ft. elevation; also Tenasserim (Helf. 843); var. *α.* in Tenasserim and the Andamans. Fl. March, Apr. Fr. C. S.

The varieties of this species require re-examination. I believe there are at least two species, the one a tree, the other a shrub.

4. C. NERIIFOLIUM, Kurz in Journ. As. Soc. Beng. 1872. 293; Hf. Ind. Fl. I. 257.

HAB. Common in the dry and drier upper mixed forests of Prome and Pegu; also in Martaban and Tenasserim; Chittagong. Fr. C. S.

5. C. ARBORESCENS, Bl. Mus. Bot. II. 17; Hf. Ind. Fl. I. 258. (*Hypericum arborescens*, Vhl. Symb. II. 86. t. 43; *C. cuneatum*, Miq. Fl. Ind. Bot. I/2. 517 ?)

HAB. Tenasserim, Moulmein (Lobb).

GUTTIFERÆ.

Conspectus of genera.

Trib. I GARCINIEÆ. Stigma sessile or on a very short and thick style, peltate or radiately-lobed. Seeds often arillate.

1. GARCINIA. Flowers 4- or 5-merous. Sepals often decussate. Stamens united into a fleshy mass or into bundles, or free.

2 OCHROCARPUS. Calyx closed in bud, bursting into 2 valves.

Trib. II. CALOPHYLLEÆ. Style elongate, the stigma peltate or 4-cleft. Seeds without arillus.

3. CALOPHYLLUM. Ovary 1-celled, with a solitary ovule; style single, with peltate stigma.

4. KAYEA. Ovary 1-celled, with 4 ovules; style single, with a 4-cleft stigma.

5. MESUA. Ovary 2-celled, with 2 ovules in each cell; style single with a peltate stigma.

Garcinia, L.

Conspectus of species.

Subg. 1. *Garcinia*, L. Flowers 4-merous.

* Anthers oblong or ovate, opening by longitudinal slits or pores.

* Stamens of male flowers in 4 bundles under the rudimentary ovary. Berries 4- to 10-celled, the stigma radiating-lobed, smooth or nearly so.

Female flowers with staminods round the ovary; berries on a short peduncle; stigma radiately-lobed and adnate, ... *G. Mangostana.*

Female flowers without staminods; berries sessile; stigma large, peltate, slightly lobed, sessile, ... *G. cornea.*

Flowers on rather long pedicels, nearly 2 in. in diameter; stigma in male flowers large, peltate, entire, ... *G. speciosa.*

* * Stamens in 4 polyandrous bundles in a ring round the rudimentary ovary; stigma peltate, discoid, more or less rough from wrinkles or radiating veins. Ovary 2-celled.

Peduncle rather long, bearing 2 or rarely 1 leafy bract, ... *G. anomala.*

Peduncle short or wanting, without bracts, ... *G. Merguensis.*

* * * Anthers almost sessile on a column or 4-sided fleshy mass seldom dividing into 4 somewhat distinct lobes. Stamens in female flowers in a single complete or interrupted ring. Stigmas tubercled or tubercled-wrinkled. Ovary 4—12-celled.

O Stigma in fruit raised on a short thick style.

Berry convex at top, the style not on a separate nipple, ... *G. cowa.*

Berry terminated by a nipple-shaped protuberance, ... *G. Kydia.*

O O Stigma in fruit quite sessile.

Leaves acuminate or cuspidate, leathery; flowers sessile, ... *G. lanceæfolia.*

Leaves blunt, succulent when dry thin herbaceous; flowers pedicelled, ... *G. succifolia.*

* * Anthers peltate, opening by a circular slit.

Leaves large, coriaceous; female flowers almost sessile, the stigma small, verrucose *G. elliptica.*

Subg. 2. *Xanthochymus*, Roxb. Flowers 5-merous.

Pedicels about an in. long; flowers expanded, ... *G. Xanthochymus.*

Pedicels 3 to 4 lin. long; flowers almost closed, doubly smaller, ... *G. dulcis.*

*1. G. MANGOSTANA, L. sp. pl. 635; Roxb. Fl. Ind. II. 618; Hook. Bot. Mag. t. 4847: Hf. Ind. Fl. I. 260.

HAB. Only cultivated, Tenasserim. Fr. May, June.

2. G. SPECIOSA, Wall. Pl. As. rar. III. t. 258; Hf. Ind. Fl. I. 260.

HAB. Frequent in the tropical forests of the Andamans; also Tenasserim, Moulmein district. Fl. Febr. Apr.

Wallich's figure above cited very much resembles *G. cornea*. My plants resemble in foliage much more *G. Mangostana*, from which they are readily distinguished by the entire but not lobed stigma of the male flowers. The flowers are very much larger than Wallich figures them, agreeing in size more with the analysed flower on the plate.

3. G. CORNEA, L. sp. pl. 561; Roxb. Fl. Ind. II. 629; Wight Ic. t. 105; Hf. Ind. Fl. I. 260.

HAB. Not uncommon in the tropical forests of Martaban and the

southern slopes of the Pegu Yomah above Rangoon; also Tenasserim. Fr. Begin of R. S.

The Burmese plants differ, as it seems constantly, in having the stigma 6-lobed and the ovaries 6-celled.

4. G. ANOMALA, Pl. and Trian. in Ann. d. sc. nat. Bot. ser. 4. XIV. 329; Hf. Ind. Fl. I. 266.

HAB. Not uncommon in the damp and dry hill-forests of Martaban E. of Tounghoo, at elevations from 4000 to 6000 ft. Fl. probably Apr. (buds in March).

5. G. MERGUENSIS, Wight Ill. 122 and Ic. t. 116; Hf. Ind. Fl. I. 267.

HAB. Tenasserim, Mergui (Griff.)

6. G. COWA, Roxb. Fl. Ind. II. 622. (*G. Roxburghii*, Wight Ic. t. 104).

HAB. Chittagong (Roxb.)

7. G. KYDIA, Roxb. Fl. Ind. II. 623; Wight Ic. t. 118. (*G. sp.* Griff. Not. Dicot. 609. t. 585. A. f. 12 ?).

HAB. Frequent in the moister upper mixed and in the tropical forests all over Burmah, from Chittagong, Pegu and Martaban down to Tenasserim and the Andamans. Fl. March to May; Fr. May June.

G. lobulosa, Wall. Cat. 4868 from Amherst is *G. Kydia*, the Singapore specimen is quite different but too incomplete for identification.

The Andamanese specimens called in my And. Report *G. purpurea*, will probably turn out to be the same as the Singapore plant, but they are too badly preserved to enable me to give a definite opinion.

8. G. LANCÆFOLIA, Roxb. Fl. Ind. II. 623; Wight Ic. 163; Hf. Ind. Fl. I. 263.

HAB. Chittagong hills.

9. G. SUCCIFOLIA, Kurz in Journ. As. Soc. Beng. 1872. 293. (*G. loniceroides*, T. And. in Hf. Ind. Fl. I. 264).

HAB. Frequent in the swamp forests of the alluvial lands of the Sittang and Irrawaddi rivers. Fl. Apr.

10. G. ELLIPTICA, Wall. Cat. 4869; Wight Ill. I. 126 and Icon. t. 120. (*Garcinia heterandra*, Wall Cat. 4856; Hf. Ind. Fl. I. 265).

HAB. Frequent in the tropical forests of the eastern slopes of the Pegu Yomah and Martaban down to Tenasserim, up to 3000 ft. elevation. Fr. Febr. March.

I consider *G. elliptica*, Wall. Cat. 4869 from Silhet identical with the *G. heterandra* of the same author, but other specimens distributed from the Kew Herbarium look different; in any case it cannot go into *G. Morella*. From the contradictory statements of authors with regard to Wallich's species, one is tempted to believe that much confusion must have occurred

in the distribution. We have in the H. B. C. at least two *Morellas*, the Hindustani one (*G. pictoria*, Roxb.) with a large conspicuous calyx under the fruit, and the Malacca one (Griff. 859) which has very minute sepals. *G. Choisyana*, Wall. ap. Hf. Ind. Fl. I. 268 from Tavoy, is known to me only from a wretched young leaf-branch and the description would agree so far with *G. elliptica* except in the sessile male flowers.

11. G. XANTHOCHYMUS, Hf. Ind. Fl. I. 269. (*G. Roxburghii*, Kurz in Pegu Report; *Xanthochymus pictorius*, Roxb. Corom. Pl. 51. t. 196 and Fl. Ind. II. 633).

HAB. Frequent in the tropical forests of Martaban and Pegu; also Chittagong, Arracan and Tenasserim; Ava. Fl. March Apr.; Fr. R. S.

12. G. DULCIS (*Xanthochymus dulcis*, Roxb. Corom. Pl. III. t. 270 and Fl. Ind. II. 631; Bot. Mag. t. 3088; Wight Ic. t. 192).

HAB. Rather frequent in the tropical forests of South Andaman and adjacent islands. Fr. March-May; Fr. May, June.

Ochrocarpus, Thouars.

1. O. SIAMENSIS, T. And. in Hf. Ind. Fl. I. 270. (*Calysaccion Siamense*, Miq. in Ann. Mus Lugd. Bat. I. 209).

HAB. Rather rare in the Eng forests of Martaban; Prome hills (Wall. Cat. 4148, quoad specimen e Prome). Fl. Sept. Oct.

Calophyllum, L.

Conspectus of species.

* Sepals 4, often the 2 inner ones or all petal-like; petals none.

Flowers about 8 lin. across, in peduncled or almost sessile umbel-like cymes...*C. spectabile.*
Flowers small; racemes short and strong, few-flowered, ...*C. amœnum.*

* * Sepals 4; petals 4 to 8.

Leaves at both ends acuminate, ...*C. polyanthum.*
Leaves rounded or retuse at the apex, ...*C. Inophyllum.*

1. C. SPECTABILE, Willd. Mag. Berl. 1811.80; Hf. Ind. Fl. I. 271. (*C tetrapetalum*, Roxb. Fl. Ind. II. 608).

HAB. Not unfrequent in the tropical forests of the Andamans; also Tenasserim. (Falconer).

2. C. AMŒNUM, Wall. Cat. 4849; Planch. & Trian. in Ann. d. sc. nat. ser. 4. XV. 263.

HAB. Tenasserim, from Moulmein down to Tavoy. Fr. Febr.

3. C. POLYANTHUM, Wall. Cat. 4844; Pl. & Trian. in Ann. d. sc. nat. Bot. 4 ser. XV. 278; Hf. Ind. Fl. I. 274.

HAB. Not unfrequent in the damp hill forests of the Martaban hills, E. of Tounghoo, at 3000 to 4000 ft. elevation.

4. C. INOPHYLLUM, L. sp. pl. 732; Wight Ic. t. 77, and Ill. Ind. Bot. Suppl. 35 t. 17; Roxb. Fl. Ind. II. 606; Hf. Ind. Fl. I. 273; Griff. Not. Dicot. 609. (*C. Bitangor*, Roxb. l. c. 607).

HAB. Frequent along the sandy sea-shores in the beach-forests of the Andamans and Tenasserim; also often cultivated in villages. Fr. Apr. May.

Kayea, Wall.

1. K. NERVOSA, T. And. in Hf. Ind. Fl. I. 277. (*Mesua nervosa*, Planch. & Trian. in Ann. d. sc. nat. Bot. ser. 4, xv. 307).

HAB. Tenasserim, Moulmein district (Falc.) down to Mergui (Griff.). Fr. Apr.

Mesua, L.

1. M. FERREA, L. sp. pl. 734; Wight Ic. t. 118; Roxb. Fl. Ind. II. 605; Hf. Ind. Fl. I. 277. (*M. speciosa*, Chois in DC. Prod. I. 562; Wight Spicil. 27. t 30 and 31; and Icon. t. 961; *M. pedunculata*, Wight Ic. t. 119).

HAB. Frequent in tropical forests of the Andaman islands and all over Tenasserim; Chittagong. Fl. March; Fr. May, June.

TERNSTRŒMIACEÆ.

Conspectus of genera.

Trib. I. TERNSTRŒMIACEÆ. Anthers basifix. Fruit indehiscent. Seeds usually few. Albumen fleshy, usually scanty. Embryo curved, the cotyledons shorter than the radicle and nearly as broad.

1. ANNESLEA. Ovary half-immersed in the torus. Fruit inferior.

2. TERNSTRŒMIA. Petals united at base. Anthers glabrous. Ovules 2 to 4 in each cell. Fruit superior. Seeds large.

3. ADINANDRA. As preceding, but anthers pilose. Seeds numerous, small.

4. CLEYERA. Petals free or hardly united. Anthers pilose. Ovules many. Fruit superior.

5. EURYA. Flowers diœcious. Petals united at base. Anthers glabrous. Ovules many. Fruit superior.

Trib. II. SAURAUJEÆ. Anthers versatile. Fruits usually pulpy, rarely almost dehiscent. Seeds numerous, small. Albumen copious. Embryo straight, the radicle longer than the cotyledons.

6 SAURAUJA. Flowers 5-merous, usually hermaphrodite. Styles 3—5.

Trib. III. GORDONIEÆ. Anthers versatile. Fruit indehiscent or loculicidal. Albumen scanty or none, rarely copious. Embryo curved or straight, the cotyledons large, the radicle short.

× Fruit a dehiscent capsule.

7. SCHIMA. Sepals somewhat unequal. Seeds flat, winged. Radicle inflexed. inferior.

8. GORDONIA. Sepals very unequal. Seeds winged. Radicle superior.

9. CAMELLIA. Sepals very unequal. Outer stamens monadelphous. Seeds few, large, not winged. Radicle superior.

× × Fruit an indehiscent drupe.

10. PYRENARIA. Sepals very unequal. Seeds large. Cotyledons folded or convolute. Radicle inferior.

Anneslea, Wall.

Conspectus of species.

Leaves less coriaceous, bluntish, the nerves distinct; peduncles slender, ...*C. fragrans.*
Leaves thick coriaceous, acute, nerves almost obsolete; peduncles very thick, *C. monticola.*

1. A. FRAGRANS, Wall. Pl. As. rar. I. 5. t. 5; Griff. Not. Dicot. 567. t. 585. A. f. 17; Hf. Ind. Fl. I. 280.

HAB. Not unfrequent in the Eng forests of Pegu and Prome, and more so in the hill Eng forests of Martaban up to 2000 ft. elevation; also Tenasserim, Moulmein. Fl. March, Apr.

2. A. MONTICOLA, Kurz in Journ. As. Soc. Beng. 1873, 59.

HAB. Not unfrequent in the drier hill forests of Martaban at 5000 to 7200 ft. elevation. Fl. Febr. March.

May possibly turn out to be a stunted hill-form of the preceding species.

Ternstrœmia, L. f.

Conspectus of species.

* Anthers apiculate.
Fruiting calyx smooth; berries about ½ in. thick, ...*T. Japonica.*
* * Anthers not apiculate.
Fruiting calyx thick and wrinkled; berries about 1—1½ in. thick, ...*T. Penangiana.*

1. T. JAPONICA, Thunbg. in Linn. Trans. II. 335; Hf. Ind. Fl. I. 280. (*Cleyera gymnanthera*, WA. Prod. I. 87; Wight Ic. t. 47; Bedd. Fl. Sylv. t. 91.; *Ternstrœmiacea*, Griff. Not. Dicot. 568. t. 604. f. 1?).

HAB. Common in the damp hill-forests of Martaban at elevations from 3000 to 7200 ft.; Tenasserim, Moulmein. Fl. Apr.

2. T. PENANGIANA, Chois. in Mem. Soc. Phys. Genév. XIV. 108; Hf. Ind. Fl. I. 281. (*Erythrochiton Wallichianum*, Griff. Not. Dicot. 565. t. 585. A. f. 7. *T. macrocarpa*, Scheff. Obs. Phyt. 15. & Tydschr. Ned. Ind. 1874. 60-61 in adn.).

HAB. Not unfrequent in the tropical forests of the Andamans; Tenasserim, from Moulmein to Mergui. Fr. Apr. May.

A more careful study of the *Ternstrœmias* will probably shew the validity of Griffith's genus *Erythrochiton*, a name already preoccupied. I am by no means sure that the Griffithian and Wallichian plants are the same. The Burmese specimens agree with the former. Dyer seems to have confounded two very marked species, *viz.*, the wrinkled-sepalled Choisyan plant and the smooth-sepalled *T. coriacea*, Scheff. (Hb. Maingay No. 183 from Malacca).

Adinandra, Jack.

1. A. VILLOSA, Chois Mém. Ternst. 24; Hf. Ind. Fl. I. 283.

HAB. Not unfrequent in the open especially the Eng forests of the Irrawaddi zone, Pegu; Tenasserim, Tavoy (Wall.).

Seems to differ from *A. dasyantha*, Korth, with which I confounded it in my Pegu Report, by the acute sepals.

Eurya, Thbg.

Conspectus of species.

* Leaves serrulate.

× Leaf-buds quite glabrous.

Branchlets marked by decurrent prominent lines, ...*E. Japonica.*

× × Leaf-buds pubescent or hirsute; branchlets terete.

A slender pine-like tree; leaves puberulous beneath, acuminate; styles united, *E. acuminata.*

A bushy round-headed tree; leaves membranous, glabrous or nearly so, bluntish caudate; styles free, ...*E. serrata.*

* * Leaves entire or serrulate at apex only.

Young shoots appressed pilose; styles united, ...*E. symplocina.*

1. E. JAPONICA, Thbg. Fl. Jap. 191. t 25; Bedd. Fl. Sylv. t. 92; Hf. Ind. Fl. I. 284. (*E. Wightiana*, Wight Ill. I. t. 38, non Wall; *E. glabra*, Bl. Mus. II. 109; *E. virens*, Bl. l. c. 112; *E. obovata*, Bl. l. c. 107).

HAB. Frequent in the drier hill-forests of Martaban at 4000 to 7000 ft. elevation; Tenasserim, Moulmein hills. Fl. March.

2. E. ACUMINATA, DC. Mém. Ternstr. 26. (*E. Chinensis*, Hf. and Th. Herb. Ind. or, as far as to the specimens with united styles.)

HAB. Rather frequent in the drier hill-forests, especially the pine forests of Martaban at 6000 to 7000 ft. elevation. Fl. Febr.; Fr. Apr.

3. E. SERRATA, Bl. Mus. II. 115; Miq. Fl. Ind. Bat. I/2 474. (*E. lucida*, Wall. Cat. 1462; *E. Wallichiana*, Steud. ap. Miq. Fl. Ind. Bat. I/2. 474; *E. Roxburghii*, Wall. Cat. 1463).

HAB. Frequent in the tropical forests of Martaban up to 2000 ft. elevation; Tenasserim, as far South as Tavoy; Pegu, in the tropical forests on laterite above Rangoon. Fr. March.

4. E. SYMPLOCINA, Bl. Mus. Bot. II. 114; Hf. Ind. Fl. I. 284. (*E. Wallichiana*, Planch MS.).

HAB. Martaban, in the damp and drier hill forests on the Nattoung mountains at about 7000 ft. elevation. Fl. March.

Saurauja, Willd.

Conspectus of species.

* Calyx densely setose or hispid. Ovary villous.

Flowers large, on short thick pedicels, clustered; leaves more or less spiny-serrate, ...*S. armata.*

* * Calyx smooth. Ovary glabrous.

Leaves pale or tawny mealy-puberous beneath; peduncles long and slender, scaly; styles 5, ...*S. Punduana.*

Adult leaves glabrous, except the puberulous midrib; peduncles short, scaly puberulous; stamens about 50; flowers lazuli-blue, ... *S Roxburghii.*

As preceding, but leaves finely setose-serrate; stamens about 20; flowers said to be white, ... *S. tristyla.*

All parts except upper side of leaves covered with long tawny or brown spreading hairs; peduncles short but slender, rusty-hirsute, ... *S. macrotricha.*

1. S. ARMATA, Kurz in Journ. As. Soc. Beng. 1873. 59. (*S. cerea*, Griff. ap. Dyer in Hf. Ind. Fl. I. 288 ?).

HAB. Ava, Khakyen-hills, Ponsee (J. Anderson). Fl. Apr.

2. S. PUNDUANA, Wall. Pl. As. rar. II. 50; Hf. Ind. Fl. I. 287.

HAB. Not unfrequent in the tropical forests of Martaban at 2000 to 3000 ft. elevation; Ava, Khakyen hills, Ponsee (J. Anderson). Fl. Apr.

3. S. ROXBURGHII, Wall. Pl. As. rar. II. 40; Hf. Ind. Fl. I. 287. (*Ternstræmia serrata*, Roxb. Fl. Ind. II. 521).

HAB. Rather frequent in the tropical and damp hill forests along choungs of the Martaban hills, E. of Tounghoo, at 2000 to 6000 ft. elevation; also Chittagong. Fl. Apr May.

4. S. TRISTYLA, DC. Mém. Ternst. 31. t. 7.; Hf. Ind. Fl. I. 287. (*Ternstræmia bilocularis*, Roxb. Fl. Ind. II. 522 ?).

HAB. Tenasserim (Helf.)

Included on the authority of Dyer. Specimens thus named in HBC. hardly differ from the preceding.

5. S. MACROTRICHA, Kurz in Journ. As. Soc. Beng. 1873. 60; Hf. Ind. Fl. I. 287.

HAB. Ava, Khakyen hills, Ponsee (J. Anderson); Durunga, at 1000 ft. elevation (Griff.). Fl. Apr.

Pyrenaria, Bl.

Conspectus of species.

* Bracts large, leafy, dissimilar to the sepals.

Leaves yellowish in a dried state, pubescent beneath, ...*P. diospyricarpa.*

* * Bracts small, much shorter than the sepals and similarly shaped.

Leaves glabrous, yellowish in a dried state, petioles hardly 2 lin. long, puberulous or glabrous; fruits obovate, waxy-yellow, ...*P. camelliæflora.*

Leaves glabrous, in a dried state liver-coloured; petioles glabrous, 6 to 8 lin. long; fruits globular or elliptical, green, ...*P. serrata.*

1. P. DIOSPYRICARPA, Kurz in Journ. As. Soc. Beng. 1873. 60.

HAB. Not unfrequent in the stunted and drier hill-forests of Martaban, E. of Toungoo, at 6000 to 7200 ft. elevation. Fl. Fr. March.

2. P. CAMELLIÆFLORA, Kurz in Journ. As. Soc. Beng. 1871. 46; Hf. Ind. Fl. I. 290.

HAB. Frequent in the drier hill-forests of Martaban at elevations from 3000 to 5000 ft., rarely lower down. Fl. March Apr.; Fr. Apr. May.

3. P. SERRATA, Bl. Bydr. 1120; Miq Fl. Ind. Bat. I/2. 493. (*P. attenuata*, Seem. in Bonpl. VII. 49; Linn. Trans. XXII. 340; Hf. Ind. Fl. I. 290.; *P. lanceolata*, T. and B. in Nat. Tydsch. Nat. Ver. Ned. Ind. XXV)

HAB. Tenasserim, Tavoy (Wall.)

Schima, Bwdt.

Conspectus of species.

× Peduncles usually very short and stout, usually not longer than the petioles.

Peduncles short and straight (rarely long in Wall. Cat. 1455 fr. Nepal), usually lenticellate, rather strong, the nerves beneath prominent, the reticulation distinct, leaves glabrous or slightly pubescent beneath, ...*Sch. Wallichii.*

Peduncles 1 in. long, lenticellate; leaves pubescent beneath; the nerves and net-venation prominent and distinct, ...*Sch. mollis.*

Peduncles thick, lenticellate; leaves very coriaceous, glossy above, crenate, on both sides green, the net-venation indistinct, immersed, ...*Sch. monticola.*

Peduncles short and straight, smooth; flowers larger than in *Sch. crenata;* leaves glaucescent beneath, often entire, the lateral nerves prominent, the net-venation obsolete, ... *Sch. Noronhæ.*

× × Peduncles elongate, and often slender, always much longer than the petioles, smooth.

Peduncles slender, usually more or less curved; leaves glaucous beneath, usually crenate-serrate, the nerves and net-venation beneath distinct, ...*Sch. oblata.*

Peduncles strong, but still slender, 1—1½ in. long; leaves very coriaceous, on both sides impressed-reticulate and almost rugulose, entire or crenate, the lateral nerves entirely or nearly impressed; capsules smaller, ...*Sch. Bancana.*

1. SCH. WALLICHII, Chois. (in Zoll. Cat. 144 ?). *Gordonia Wallichii*, DC. Prod. I. 528; *Gordonia integrifolia*, Roxb. Fl. Ind. II. 572).

HAB. Chittagong; Ava, Khakyen-hills, Ponsee (J. Anderson). Fl. March.

2. SCH. MOLLIS, Dyer in Hf. Ind. Fl. I. 288.

HAB. Ava, Taong-dong (Wall. Cat. 1458); Dyer gives Tavoy as a habitat, but this is an error. I fear that it is hardly more than a pubescent variety of the preceding.

3. SCH. MONTICOLA, Kurz MS.

HAB. Martaban, on the highest crests af the Nattoung mountains, in the stunted hill forests, at 6000 to 7200 ft. elevation. Fr. March.

May possibly be a hill-form of *Sch. Noronhæ*, but looks very different even structurally. The leaves much resemble those of *Pygeum lucidum.*

4. SCH. NORONHÆ, Rwdt. in Bl. Bydr. 129; Korth. Verh. 144. t. 29. f. 21—27; Miq. Fl. Ind. Bat. I/2. 492. (*Gordonia integrifolia*, Roxb. Fl. Ind. II. 572; *Gordonia floribunda*, Wall. Cat. 1457, B only.)

HAB. Frequent in the drier hill-forests of the Martaban hills at 1500 to 4000 ft. elevation, entering also the hill Eng-forests; Tenasserim (Helf. 763). Fl. Febr. March; Fr. March, Apr.

Schima, Griff. No. 768 has the peduncles of the above, but the leaves very much resemble those of *Sch. oblata*, I think that they are abnormal and produced after an unusual fall of leaves.

5. Sch. oblata, Kurz in Journ. As. Soc. Beng. 1870. 65. (*Sch. crenata*, Korth. Verh. Nat. Gesch. 143. t. 29; Hf. Ind. Fl. I. 289; *Gordonia oblata*, Roxb. Fl. Ind. II. 572).

Hab. Pegu, Rangoon; Tenasserim (Helf. 763).

6. Sch. Bancana, Miq. Ann. Mus. Lugd. Bat. IV. 413.

Hab. Tenasserim (Helf. 761); common in the Eng forests of the lower hills of Tenasserim and Martaban, also in the pine forests up to 3000 ft. elevation. (Dr. Brandis.)

The differences between the species of *Schima* are very slight, but the logical consequence of the reduction of any of the above forms would be such a combination as *Sch. Noronhæ* and *Sch. Wallichii*.

Camellia, L.

Conspectus of species.

Subg. 1. *Thea*, L. Stamens of inner series equal in number to the petals.
All parts quite glabrous; flowers large; leaves coriaceous, ...*C. Japonica.*
Subg. 2. *Camellia*, L. Stamens of inner series twice the number of the petals.
Young parts and midrib of the membranous leaves pilose; flowers nodding on a line-long scaly peduncle; filaments villous, ... *C. caudata.*
All parts glabrous; leaves coriaceous; peduncles not scaly; filaments glabrous,...*C. Thea.*
Glabrous; leaves coriaceous; flowers almost sessile, erect; filaments glabrous, *C. drupifera.*

*1. C. Thea, Lk. in Stend. Nomencl. Bot. (*Thea Chinensis*, L. sp. pl. ed. 1. 515; Sims. Bot. Mag. t. 998; Seem. in Linn. Trans. XII. 349. t. 61; *Thea Bohea* and *T. viridis*, L. sp. pl. ed. 2. 735; *Thea Cochinchinensis*, Lour. Fl. Coch. I. 338; *C. theifera*, Griff. Not. Dicot. IV. 558. t. 601. f. 1 and 3; Trans. Agr. Hort. Soc. Bengal V. t. C.; Hf. Ind. Fl. I. 292).

Hab. Cultivated in Chittagong and Arracan.

2. C. caudata, Wall. Pl. As. Rar. III. 336; Griff. Not. Dicot. 559. t. 601. f. 2; Trans. Agri. Hort. Soc. Ind. V. 1838 t. A.; Hf. Ind. Fl. I. 293.

Hab. Not unfrequent in the drier hill-forests of the Martaban hills along choungs, as for instance near the Chinchona plantation on Shan toung gyee toung at about 3500 ft. elevation. Fl. March?

I fear that I am wrong in my identification and, unfortunately, the only two withered flowers met with by me have been lost by the glue-men. It has much larger and shorter acuminate leaves, and the habit of *C. assimilis* as figured by Seemann. It is a small tree with white wood. N. B. *C. Japonica*, L., is often met with in gardens of Europeans.

3. C. drupifera, Lour. Fl. Coch. I. 411; Seem. in Linn. Trans. XXII. 344; Hf. Ind. Fl. I. 293. (*C. Kissi*, Wall. in Asiat. Res. XIII.

429 and Journ. As. Soc. Beng. IV. 48. t. 2. and Fl. As. rar. III. 36. t. 256; *C. simplicifolia*, Griff. Not. Dicot. IV. 560. t. 604. f. 2).

HAB. Tenasserim (and Andaman islands ? ?) (Helf. teste Dyer).

DIPTEROCARPEÆ.

Conspectus of genera.

Subord. I. ANCISTROCLADEÆ. Ovary 2-celled, with a single erect ovule; fruit adnate to the enlarged calyx. Scandent shrubs.

1. ANCISTROCLADUS. All the 5 calyx lobes more or less enlarged.

Subord. II. DIPTEROCARPEÆ. Ovary 3- rarely 1-celled, with 2 pendulous ovules in each cell. Trees, rarely erect shrubs.

* Ovary inferior or nearly so, or with a broad base adnate to the calyx-tube: nuts therefore for ½ to ¾ of their length adnate to the enlarged calyx tube.

2. ANISOPTERA. Connective terminating in a bristle or acute gland; 2 of the 5 calyx-lobes enlarging into long wings.

* * Ovary free, superior; nuts free, either enclosed in the enlarged calyx-tube or exposed and the calyx tube hardly enlarged.

O Calyx-tube in fruit very enlarged, completely enclosing the nut.

3. DIPTEROCARPUS. Two of the calyx lobes enlarging into long wings.

O O Calyx-tube in fruit not or almost not enlarged, the nuts either quite exposed or closely surrounded by the enlarged calyx-wings.

† Calyx-lobes valvate in bud.

4. PARASHOREA. Stamens 12—15, the connective mucronulate; calyx-lobes all almost equally enlarging and wing-like, stellately spreading, the nut quite exposed.

† † Calyx-lobes imbricate and usually also twisted in the bud.

× The 3 outer calyx-lobes in fruit longer than the 2 inner ones.

6. SHOREA. Corolla-lobes spreading; stamens 35—50 or more; anther-cells blunt, the connective terminating in a bristle or penicellate sharp point.

6. PENTACME. Corolla-lobes infracted at middle and forming a hemispherical closed cup leaving only an opening for the protruding anthers and style; stamens 15; anthers 4-celled, the cells bristly, diverging from the subulate-pointed connective (anthers therefore 5-setose).

× × The outer calyx-lobes in fruit much longer than the 3 inner very small ones.

7. HOPEA. Stamens 15; anther-cells entire at top, adnate to the more or less prolonged connective.

× × × All the 5 calyx-lobes in fruit equally enlarged but not longer than the fruit itself.

8. VATICA. Stamens 15. Capsules by abortion 1- rarely 2-seeded.

Ancistrocladus, Wall.

Conspectus of species.

All the 5 lobes of the fruiting calyx equally enlarged, short and coriaceous, stellately spreading, leaves chartaceous, ...*C. Griffithii.*

Lobes of fruiting calyx unequal, chartaceous, 1—1½ in. long; leaves of a thicker texture, ...*C. Wallichii.*

1. A. GRIFFITHII, Planch. in Ann. d. sc. nat. ser. 3. XIII. 318; DC. Prod. XVI. 603; Hf. Ind. Fl. I. 300.

HAB. Common in the swamp-forests and along muddy river banks of Pegu and Martaban down to Tenasserim, chiefly in the alluvial plains. Fl. Fr. Apr. May.

2. A. WALLICHII, Planch. in Ann. d. sc. Nat. 3 ser. XIII. 319; Hf. Ind. Fl. I. 300. (*A. extensus*, Wall. Cat. 1052; DC. Prodr. XVI. 602; Hf. Ind. Fl. I. 299; *A. stelligerus*, Wall. ap. DC. Prod. l. c. 603 ?; *A.* sp. Griff. Nat. Dicot. 568.)

HAB. Frequent in the tropical forests of the Pegu Yomah and Martaban down to Tenasserim and the Andamans; also Chittagong. Fl. Febr. March; Fr. Apr. May.

The wings are described as subequal but all those that I saw were very unequal, and it is possible that *A. Wallichii* of Dyer is the same as *A. Griffithii*. At least several specimens of *A. stelligerus*, Wall. Cat. belong to the latter. Wallich's specimens 1052-2 in HBC. from Silhet, in very unripe fruit only, have the wings unequal. The plants are dimorphophyllous, having elongate leaves 1 to 1½ and 2 ft. long and others hardly 6 in. long on different branches of the same stock flowering at the same time. The panicles, too, vary from robust to slenderly-branched.

Doubtful species.

1. A. ATTENUATUS, Dyer in Hf. Ind. Fl. I. 300.

HAB. Tenasserim and Andaman islands (Helf. 724.)

The specimen in HBC. is in panicle less the flowers and fruits and has the habit of *A. Griffithii;* the fruits, however, as described by Dyer, agree with those ascribed by me to *A. extensus*.

Anisoptera, Korth.

Conspectus of species.

Subg. 1. *Synaptea.* Stamens only 15—18, the connective terminated in an acute gland; style filiform; nuts only to about ⅓ of their length adnate to the calyx-tube.
Young shoots covered by a mealy or scurvy tomentum, ...*A. odorata.*
Subg. 2. *Anisoptera.* Stamens numerous, the connective produced into a bristle, style thick and ovoid; nuts inferior or nearly so.
Apparently quite glabrous, ...*A. glabra.*

1. A. ODORATA (*Sunaptea odorata*, Griff. Not. Dicot. 516. t. 685. A. f. 5; *Hopea grandiflora*, Wall. nom. nud.; DC. Prod. XVI. 634; *Synaptea grandiflora*, Kurz in Journ. As. Soc. Beng. XXXIX. 65; *Vatica grandiflora*, Dyer in Hf. Ind. Fl. I. 301).

HAB. Tenasserim, from Moulmein southwards, not unfrequent.

N. B. *Vatica faginea* Dyer in Hf. Ind. Fl. I. 301 from Mergui seems not to differ from the above as far as the description goes. *Hopea fagines* or, as it is marked in HBC, *Shorea Penangiana*, Wall. Cat. 963, is from Penang and a true *Anisoptera* with quite inferior fruit.

2. A. GLABRA, Kurz in Journ. As. Soc. Beng. 1873. 61; Hf. Ind. Fl. I. 301.

HAB. Frequent in the tropical forests of the eastern slopes of the Pegu Yomah and Martaban, E. of Tounghoo. Fr. Apr. May.

3. A. OBLONGA, Dyer in Hf. Ind. Fl. I. 301.

HAB. Tenasserim, Mergui (Griff.). Unknown to me, said to differ from the preceding in the unequally prominent nerves of the calyx-wings.

Dipterocarpus, Gærtn. f.

Conspectus of species.

* Calyx-tube in fruit more or less globular, ovoid to turbinate, without any ribs or longitudinal wings on its belly.

O Calyx-tube in fruit towards the top produced into 5 compressed knobs each situated between 2 lobes.

Leaves glabrous or puberulous beneath; stipules puberulous, ...*D. tuberculatus.*

O O Calyx-tube in fruit perfectly terete.

× Leaves glabrous and glossy.

Stipules velvety; fruiting calyx smooth and more or less pruinous, ...*D. lævis.*

Stipules glabrous; fruiting calyx sprinkled with minute stellate hairs, ...*D. Hasseltii.*

× × Leaves beneath or on both surfaces variously hairy.

Leaves acuminate, beneath along with the petioles pubescent, ...*D. turbinatus.*

All softer parts greyish pubescent, the leaves blunt, ...*D. obtusifolius.*

Leaves acuminate, often large; petioles, young branchlets and stipules strigose from short tawny brush-like fascicled hairs, ...*D. pilosus.*

* * Calyx-tube in fruit longitudinally marked by 5 ribs or as many wings.

† Wings of fruiting calyx-tube broad (about half as broad as the belly or broader).

Calyx greyish-tomentose, when in fruit sparingly stellate-puberulous; petioles long; leaves greyish pubescent, ...*D. alatus.*

Calyx pruinous, quite glabrous; petioles only 2—2½ in. long, ...*D. Griffithii.*

† † Wings of the fruiting calyx-tube narrow or reduced to ribs.

O Leaves blunt.

All softer parts greyish-villous, ...*D. incanus.*

O O Leaves acuminate.

Branchlets tomentose, the belly of the calyx narrowly 5-winged and sparingly hairy. ...*D. costatus.*

1. D. TUBERCULATUS, Roxb. Fl. Ind. II. 614 and Icon. ined. IX. t. 82; DC. Prod. XVI. 614; Hf. Ind. Fl. I. 297.

HAB. Forming the principal constituent of the Eng and hill Eng forests all over Ava, Prome, Pegu and Martaban down to Tenasserim; also Chittagong. Fl. Apr.; Fr. May.

2. D. LÆVIS, Ham. in Wern. Soc. Trans. VI. 299; DC. Prod. XVI. 607. (*D. turbinatus*, Roxb. Corom. Pl. III. 3. t. 213 and Fl. Ind. II. 612; *D. grandiflorus*, Griff. Not. Dicot. 515.)

HAB. Frequent all over Burma from Arracan, Pegu and Martaban down to Tenasserim. Fl. Apr.; Fr. May.

3. D. Hasseltii, Bl. Fl. Jav. Dipt. 22. t. β; DC. Prod. XVI. 609.

Hab. In the tropical forests of the Andaman Islands and Tenasserim.

Differs from the preceding solely in the glabrous stipules and not-pruinous calyx-belly.

Maingay's Malayan plant No. 199 belongs here. Dyer (in Trim. Journ. Bot. 1874. p. 102) incorrectly refers the species to *D. trinervis*.

4. D. turbinatus, Gærtn. f. Fruct. III. 51. t. 588; DC Prod. XVI. 607 quoad diagn. Ham; Dyer. in Trim Journ. Bot. 1874. t. 143. f. 13.

Hab. Frequent in the tropical forests of the eastern slopes of the Pegu and Arracan Yomah and Martaban down to Tenasserim; also Chittagong. Fl. Apr.; Fr. May.

Fruits resemble those of *D. Hasseltii*, leaves those of *D. alatus*. Gærtner's figure is very characteristic, representing a not full-grown fruit.

5. D. obtusifolius, Teysm. in Miq. Ann. Mus. Lugd. Bat. I. 214; DC. Prod. XVI. 608; Hf. Ind. Fl. I 295.

Hab. Common in the hill Eng forests of Martaban and in the Eng forests of the Prome District up to 1500 ft. elevation. Fl. March, Apr.; Fr. Apr. May.

6. D. pilosus, Roxb. Fl. Ind. II. 615; DC. Prod. XVI. 614; Hf. Ind. Fl. I. 296.

Hab. In the damp hill and tropical forests of the Martaban hills, E. of Tounghoo down to Tenasserim, up to 3500 ft. elevation; also Chittagong, Mascal island (Roxb.).

7. D. alatus, Roxb. Fl. Ind. II. 614; DC. Prod. XVI. 611. (*D. incanus*, Dyer in Hf. Ind. Fl. I. 298, vix Roxb.).

Hab. Frequent in the tropical forests of Pegu and Martaban down to Tenasserim; also in Arracan. Fl. Apr. May; Fr. May.

8. D. Griffithii, Miq. in Ann. Mus. Lugd. Bat. I. 213; Hf. Ind. Fl. I. 299.

Hab. In the tropical and moister upper mixed forests of the Andamans; Tenasserim, Mergui (Griff.). Fr. May.

9. D. incanus, Roxb. Fl. Ind. II. 615; DC. Prod. XVI. 614.

Hab. Chittagong. Fl. Nov. Dec.; Fr. Apr.

A very doubtful species which indeed comes very near to *D alatus* according to the description, although it is not likely that Roxburgh should have named the same species twice over.

10. D. costatus, Gærtn. Fruct. III. 50. t. 187; Dc. Prod. XVI. 610. (*D. gonopterus*, Turcz. in Bull. Soc. Mosc. 1863. I. 576 ?; Dc. Prod. XVI. 612 ?).

Hab. Frequent in the hill Eng forests of the Martaban hills and in Upper Tenasserim; up to 2000 ft. elevation. Fr. Apr.

Dyer correctly remarks that *D. costatus* in Gærtn. Fruct. is a bad

representation of *D. alatus*; but it is a faithful delineation of what I formerly identified (and I still believe correctly) with *D. gonopterus*, Turcz. I have not seen *D. scaber*, Ham. which is described as clothed with fascicled brown hairs.

Doubtful species.

1. D. VESTITUS, Wall. Cat. 954; Hf. Ind. Fl. I. 295.

HAB. Tenasserim, Tavoy (Gomez).

Not seen by me but seems allied to, if not identical with, *D. turbinatus*; apparently differing by the calyx-lobes all short broadly deltoid (not 2' elongate).

2. D. SCABER, Ham in Mem. Wern. Soc. VI. 300; Hf. Ind. Fl. I. 297.

HAB. Hills of southern Tippera (Ham).

3. D. ANGUSTIFOLIUS, W.A. Prod. I. 84. (*D. costatus*, Roxb. Fl. Ind. II. 613).

HAB. Chittagong Hills.

Parashorea, Kurz.

1. P. STELLATA, Kurz in Journ. As. Soc. Beng. 1870, 66. (*Shorea stellata*, Dyer in Hf. Ind. Fl. I. 304).

HAB. Frequent in the tropical forests of Martaban; rather rare along the eastern slopes of the Pegu Yomah, up to 1500 ft. elevation. Fl. March; Fr. Apr. May.

The generic distinctions of *Parashorea* do not consist in the development of the fruit-wings but in the æstivation of the calyx and the entirely exposed nut.

Shorea, Roxb.

Conspectus of species.

* Inflorescence tomentose or velvety-pubescent.

× Leaves chartaceous, when full-grown glabrous or nearly so.

Shorter calyx-lobes in fruit acuminate; stamens c. 20—25, ...*S. obtusa.*

Shorter calyx-lobes in fruit blunt; stamens about 50, ...*S. robusta.*

× × Leaves very coriaceous, appressed silvery beneath.

Incompletely known; leaves apparently persistent, ...*S. Helferi.*

* * Inflorescence quite glabrous.

Calyx quite glabrous, ...*S. floribunda.*

1. S. OBTUSA, Wall. Cat. 966; Bl. Mus. Lugd. Bat. II. 32. t. 8; Hf. Ind. Fl. I. 306.

HAB. Common in the Eng and hill Eng forests all over Burma from Ava, Prome and Martaban down to Tenasserim, up to 2000 ft. elevation. Fl. March; Fr. Apr. May.

2. S. ROBUSTA, Gærtn. Fr. III. 48 t. 186; Roxb. Corom. Pl. III. t. 212 and Fl. Ind. II. 615; Bedd. Fl. Sylv. Madr. t. 4.; Hf. Ind. Fl. I. 306.

HAB. Said to grow in Ava.

3. S. HELFERI (*Vatica Helferi*, Dyer in Hf. Ind. Fl. I. 302).

HAB. Tenasserim, Mergui (Griff. 715/1).

Referred here on account of habit.

There is another *Shorea*, in leaf only, very much resembling *Durio Oxleyanus* from Tenasserim, Moulmein (Falc. 438), which differs from *Sh. leprosula* in having the upper side of the leaves not scabrous and generally in the different clothing and nervation.

4. SH. FLORIBUNDA, Kurz in Journ. As. Soc. Beng. 1873. 60; Hf. Ind. Fl. I. 304.

HAB. Tenasserim, Tavoy. Fl. Decb.

Pentacme, DC.

1. P. SIAMENSIS, Kurz in Journ. As. Soc. Beng. 1870, 66. (*Shorea Siamensis*, Miq. Ann. Mus. Lugd. Bat. I. 214; Hf. Ind. Fl. I. 384).

HAB. Very frequent in the Eng and dry forests more especially in Ava and the Prome ditrict, less frequent from Pegu and Martaban down to Tenasserim. Fl. March; Fr. Apr. May.

The Siamese specimens have the young leaves beneath white-tomentose, but differ in no other respect.

Hopea, Roxb.

Conspectus of species.

* Connective terminated by a short point.

Calyx greyish tomentose; leaves bluntish acuminate, ...*H. odorata.*
Leaves oblong, blunt, ...*H. scaphula.*

* * Connective terminated by a bristle longer than the anther-cells.

Calyx greyish tomentose; flowers somewhat larger, ...*H. gratissima.*
Calyx almost glabrous; flowers very small, ...*H. Griffithii.*

1. H. ODORATA, Roxb. Corom. Pl. III. t. 210 and Fl. Ind. II. 609. Hf. Ind. Fl. I. 308. (*H. vasta*, Wall. ap. DC. Prod. XVI. 633).

HAB. Common in the tropical forests all over Burma from Chittagong and Martaban down to Tenasserim. Fl. March, Apr.; Fr. May, June.

NB. *Hopea eglandulosa*, Roxb. is a *Cyclostemon* and differs from the above by the white bark as indicated by Roxburgh himself.

2. H. SCAPHULA, Roxb. Fl. Ind. II. 611; DC. Prod. XVI. 635. (*Vatica scaphula*, Dyer in Hf. Ind. Fl. I. 301).

HAB. Chittagong, on Mascal Island (Roxb.). Fl. Jan.

3. H. GRATISSIMA, Wall. Cat. 960; Kurz in Journ. As. Soc. Beng. 1873. 61. (*H. oblongifolia*, Dyer in Hf. Ind. Fl. I. 309?; *Shorea gratissima*, Dyer l. c. 307).

HAB. Tenasserim (Griff. 714/1).

4. H. GRIFFITHII, Kurz in Journ. As. Soc. Beng., 1873, 60; Hf. Ind. Fl. I. 310.

HAB. Tenasserim, Mergui (Griff.). 717/1).

Vatica, L.

1. V. LANCEÆFOLIA, Bl. Mus. Lugd. Bat. II. 31; DC. Prod. XVI. 618; Hf. Ind. Fl. I. 302. (*Vateria lanceæfolia*, Roxb. Fl. Ind. II. 601).

HAB. Chittagong (Roxb.); Burma (Griff.). Fl. May; Fr. Jul. Aug.

Doubtful species.

1. V. TRIGYNA, Griff. Not. Dicot. 514.

HAB. Tenasserim, Mergui, on the summit of the hillock Pator, at 600—800 ft. elevation (Griff.).

Griffith's description is a very complete and good one, but still I cannot guess the plant. The ovary-like style would indicate *Anisoptera*, but the ovary itself is stated to be superior and free.

MALVACEÆ.

Conspectus of genera.

A. *Carpels whorled in a single row, not united into a capsule.*

Trib. I. MALVEÆ. Staminal column bearing the filaments at the summit. Style-branches as many as cells to the ovary. Mature carpels separating more or less from the axis.

* Ovules solitary, ascending.

× Stigmas linear.

1. ALTHÆA. Bracteoles 6—9, united at base; fruit-axis not longer than the carpels.

2. MALVA. Bracteoles 3, distinct. Carpels not beaked.

× × Stigmas capitate or clavate.

3. MALVASTRUM. Bracteoles 1 to 3, distinct, or none. Carpels usually beaked.

* * Ovules suspended, solitary.

4. ANODA. Bracteoles none. Carpels broadly stellate, not beaked.

5. SIDA. Carpels converging with their points or beaked. Bracteoles none, or very rarely 1 or 2 and bristle-like.

* * * Ovules 2 or more, ascending or pendulous or both.

6. ABUTILON. Bracteoles none. Carpels 5—20, without spurious partitions.

Trib. II. URENEÆ. Staminal column truncate or 5-toothed at apex bearing the anthers or filaments on the outside. Style-branches twice as many as ovary-cells. Carpels 1-seeded.

7. URENA. Bracteoles 5, connate at base. Carpels opposite the petals, muricate or glochidiate.

8. PAVONIA. Bracteoles 5 or more, usually free, herbaceous or bristle-like. Carpels opposite the sepals, variously armed or smooth.

B. *Fruit a capsule, dehiscent or rarely indehiscent.*

Trib. III. HIBISCEÆ. Staminal column truncate or 5-toothed at summit, bearing the anthers or filaments outside or also on the summit itself. Style-branches or stigmas as many as ovary-cells.

O Style branched at the summit, the branches spreading or radiating. Seeds usually reniform.

9. KYDIA. Bracteoles 4—6, enlarging in fruit. Capsule 2- or 3-valved.

10. DECASCHISTIA. Bracteoles 10. Ovary, 10-celled, with a solitary ovule in each cell.

11. HIBISCUS. Bracteoles 5 or more, free or connate, rarely tooth-like or wanting. Ovary 5-celled, with 2 or more ovules in each cell.

O O Stigmas clavate, undivided or very shortly and erect-branched. Seeds obovoid or angled.

12. THESPESIA. Bracteoles 3 to 5, usually small.

13. GOSSYPIUM. Bracteoles 3, leafy, large, cordate.

Trib. IV. BOMBACEÆ. Staminal column divided at summit, or rarely to the base, into numerous filaments or 5 to 8 staminal bundles, very rarely entire nearly to the summit. Anthers free or variously cohering. Stigmas free or connate.

* Leaves digitate. Bracteoles distinct or none.

14 BOMBAX. Calyx truncate or irregularly 3- to 5-lobed. Capsule 5-valved, copiously woolly within. Ultimate filaments with a single anther.

15. ERIODENDRON. Calyx and capsule as in preceding. Filaments with 2 or 3 anthers.

* * Leaves simple, penninerved, beneath more or less lepidote. Fruits muricate.

16. DURIO. Calyx bell-shaped. Petals 5. Branches of the staminal bundles bearing several linear anthers with sinuous anther-cells.

Althæa, L.

1. A. ROSEA, Cav. Diss. t. 29. f. 3; Roxb. Fl. Ind. III. 180; DC. Prod. I. 437; Bot. Mag. t. 3189. (A. Coromandeliana, Cav. l. c. 293; WA. Prod. I. 45; A. flexuosa, Sims Bot. Mag. t. 892; A. Sinensis, Cav. l. c. t. 29. f. 3.; DC. l. c.).

HAB. In gardens both of natives and of Europeans, more especially in the drier districts, as Prome, also Ava, Khakyen hills, Ponsee (J. Anderson). Fl. March.

Malva, L.

1. M. VERTICILLATA, L. sp. pl. 970; Hf. Ind. Fl. I. 320; Engl. Bot. t. 2953; Hook. Journ. 1847. t. 7. (*M. Neilgherrensis*, Wight Ic. t. 950).

HAB. Ava, Khakyen hills, Ponsee (J. Anderson). Fr. May.

Malvastrum, A. Gray.

*1. M. TRICUSPIDATUM, A. Gray Bot. Amer. Exp. I. 148; Hf. Ind. Fl. I. 321. (*M. ruderale*, Miq. Fl. Ind. Bat. 1/2 138).

HAB. In rubbishy places near Chittagong; also one specimen seen in Rangoon. Fl. R. S.

Sida, L.

Conspectus of species.

* Leaves from lanceolate to oblong or obovate-oblong, on short 2 to 4 lin. long petioles.

Carpels usually 5, leaves more or less green on both sides; peduncles short, not or at the very base jointed, ...*S. carpinifolia.*

Carpels usually 10, seldom fewer, leaves minutely greyish tomentose beneath; peduncles usually elongate, jointed at about their middle,...*S. rhombifolia.*

* * Leaves cordate or nearly so, on 6 to 15 lin. long, usually slender petioles.

O Carpels terminating in 2 long awns.

Erect, glabrous or nearly so, ...*S. corylifolia.*

Erect, densely tomentose, ...*S. cordifolia.*

O O Carpels blunt or shortly 2-lobed,

Erect; hairs glandular or viscid; flowers solitary or several, on short and rather thick glandular peduncles, ...*S. glutinosa.*

Spreading or almost erect, weak; hairs spreading, not glandular; flowers solitary, on long filiform jointed simply hairy peduncles, ...*S. humilis.*

1. S. CARPINIFOLIA, L. sp. pl. 963; Hf. Ind. Fl. I. 323. (*S. acuta*, Burm. Fl. Ind. 147; Roxb. Fl. Ind. III. 171; Wight Ic. t. 95; *S. lanceolata*, Roxb. l. c. 175).

HAB. Very frequent, especially in rubbishy places, in cultivated grassy lands, shrubberies, etc., all over Burmah; Andamans, introduced only. Fl. R. and C. S.

2. S. RHOMBIFOLIA, L. sp. pl. 961; Roxb. Fl. Ind. III. 176; Hf. Ind. Fl. I. 323.

Var. *α*. LINNEANA, Griseb. Fl. West. Ind. 74.

Var. *β*. CANARIENSIS, Griseb. l. c. 74. (*S. rhomboidea*, Roxb. Fl. Ind. III. 176; *S. rhombifolia var.* 3 *rhomboidea*, Mast. in Hf. Fl. Ind. I. 324 pp.)

Var. *γ*. RETUSA, Griseb. l. c.; Mast. l. c. (*S. retusa* L. sp. pl. 961; Roxb. Fl. Ind. III. 175).

Var. *δ*. ACUTA; erect, branched; leaves oblong-lanceolate, acuminate, toothed; carpels 6—7, stellate pubescent, with 4 long awns.

Var. *ε*. ALNIFOLIA (*S. alnifolia*, Roxb. Fl. Ind. III. 174; WA. Prod. I. 58, an etiam L?; *S. Chinensis*, Roxb. l. c.; *S. microphylla*, Roxb. l. c. 170?; *S. Philippica*, DC. Prod. I. 462).

HAB. Very frequent in leaf-shedding forests and in cultivated lands all over Burma; var. *δ*. *Tenasserim*. Fl. Fr. C. and R. S.

3. S. CORYLIFOLIA, Wall. Cat. 1865; Hf. Ind. Fl. I. 324.

HAB. Ava, Segain (Wall.).

4. S. CORDIFOLIA, L. sp. pl. 961; Roxb. Fl. Ind. III. 177; Hf. Ind. Fl. I. 324; (*S. decagyna*, Schum. and Thon. Dansk. Vidensk. Selsk. Afh. IV. 12; Walp. Rep. I. 315).

HAB. Not unfrequent on sandy soil chiefly, as well in the leaf-shedding forests as in shrubberies of the lower lands of Pegu and Arracan. Fl. Fr. Oct. Decb.

5. S. GLUTINOSA, Roxb. Fl. III. 172. (*S. Myeurensis*, WA. Prod. I. 59; Hf. Ind. Fl. I. 322).

HAB. Frequent in the mixed and open forests all over Pegu and Martaban; also Tenasserim and Ava, Khakyen hills. Fl. Fr. Febr., May.

6. S. HUMILIS, Willd. sp. pl. III. 744; Roxb. Fl. Ind. Fl. I. 322.

HAB. Frequent all over Pegu, more especially in the Prome District, in leaf-shedding forests and rubbishy places; also Ava. Fl. Fr. Oct. March.

Albutilon. Gærtn.

Conspectus of species.

* Carpels more than 10, usually about 20.

Tomentum close and dense, without spreading hairs; capsule truncate, the carpel-points very short, ... *A. Indicum.*

Tomentum dense, intermixed with long spreading hairs; capsule at the top contracted and angular, the carpels not pointed, ...*A. graveolens.*

* * Carpels fewer than 10, usually 5 or 7.

Tomentum consisting of short glandular hairs, intermixed with long simple and spreading ones,...*A. polyandrum.*

1. A. INDICUM, G. Don. Gen. Syst. I. 504; Wight Ic. t. 12; Hf. Ind. Fl. 325. non Miq. Fl. Ind. Bat. (*Sida Indica* L. sp. pl. 964; Roxb. Fl. Ind. III. 179; *Sida populifolia*, Roxb. Fl. Ind. III. 179; *Sida Asiatica*, L. sp. pl. 964; Roxb. Fl. Ind. III. 179; Hf. Ind. Fl. I. 326).

HAB. Frequent along road sides, around villages, along the banks of rivers, etc., all over Prome and Pegu; also Ava. Fr. Decb. Jan.

2. A. GRAVEOLENS, WA. Prod. I. 56; Hook. Comp. Bot. Mag. I. t. 2; Hf. Ind. Fl. I. 327. (*Sida graveolens*, Roxb. Fl. Ind. II. 179; Bot. Mag. t. 4134).

HAB. In uncultivated places, amongst shrubbery etc., especially around villages in Pegu. Fl. CS.; Fr. H. S.

3. A. POLYANDRUM, Schlecht. in Link En. Hort. Berol. II. 264; Hf. Ind. Fl. I. 325. (*Sida polyandra*, Roxb. Fl. Ind. III. 173; *Sida Persica*, Burm. Fl. Ind. t. 47. f. 1; Cav. Diss. I. t. 4. f. 1).

HAB. Pegu (Brandis).

The Burmese plant differs chiefly in the more glandular pubescence and in having the carpels constantly by 7, not by 5.

Doubtful species.

1. SIDÆ, sp. Griff. Not. Dicot. 523.

HAB. Tenasserim, Moulmein, in jungles and along roads.

Urena, L.

Conspectus of species.

* Capsules longer than the sepals, glochidiate and bristly tomentose, ... *U. lobata.*

* * Carpels included in the calyx, smooth or net-veined.

O Petals 1½ to nearly 2 in. long, forming a large funnel-shaped corolla.

Leaves almost rotundate, very scabrous on both surfaces; flowers forming dense leafy terminal heads, ... *U. rigida.*

Leaves underneath softly tomentose, scabrous above, the lower ones usually lobed; flowers in loose spreading terminal racemes, ... *U. speciosa.*

O O Petals about 4 lin. long, forming a rotate corolla; involucre longer than the calyx.

Flowers sessile or nearly so in the axils of the leaves, or along axillary short leafy branchlets, ... *U. repanda.*

1. U. LOBATA, L. sp. pl. 974; Roxb. Fl. Ind. III. 182; Bot. Mag. t. 3043; Griff. Not. Dicot. 522; Hf. Ind. Fl. I. 329. (*U. reticulata*, Cav. Diss. VI. 335 t. 183. f. 1.; *U. viminea*, Cav. l. c. t. 184. f. 1; *U. microcarpa*, DC. Prod. I. 441; *U. ribesia*, Sm. in Rees. Cycl. 37. No. 5; DC. l. c.; *U. Swartzii*, DC. l. c.; *U. scabriuscula*, DC. l. c.).

Var. β. SINUATA (*U. sinuata*, L. sp. pl. 974; Roxb. Fl. Ind. III. 182; Hf. Ind. Fl. I. 329).

Var. γ. LANOSA, leaves larger, usually with shorter lobes and less scabrous, sometimes almost softly tomentose; involucre and calyx rather flaccid, densely tomentose.

HAB. All three forms common, especially in uncultivated places, in shrubberies, toungyas, etc., but also in leaf-shedding forests all over Burma from Chittagong and Ava down to Tenasserim up to 3000 ft. elevation; Var. α. rarer than β. and γ. Fl. Fr. ∞.

2. U. RIGIDA, Wall. Cat. 1929; Hf. Ind. Fl. I. 330.

HAB. Not uncommon in the open, especially the low, forests of Pegu and Martaban; also Tenasserim, chiefly on stiff clay and laterite. Fl. Oct. to Jan.

3. U. SPECIOSA, Wall. Pl. As. rar. I. t. 26.

HAB. Not unfrequent in the low and mixed forests all over Pegu; also Ava. Fl. Fr. C. S.

Pavonia, Cav.

Conspectus of species.

Sect. 1. *Lebretonia.* Bracteoles 5-6. Carpels indehiscent.

Flowers yellow; carpels muricate, ... *P. glechomifolia.*

Sect. 2. *Eupavonia.* Bracteoles 10 or more. Carpels dehiscent.

Flowers pink; carpels unarmed, the margins slightly but sharply produced, *P. zeylanica.*

1. P. GLECHOMIFOLIA, A. Rich. Fl. Abyss. I. 54.; Hf. Ind. Fl. I. 330. (*Lebretonia procumbens*, Wall. Cat. 1883; Wight Ic. t. 4).

HAB. Ava. Segain. (Wall.).

2. P. ZEYLANICA, Willd. sp. pl. III. 838; Roxb. Fl. Ind. III. 214; Hf. Ind. Fl. I. 331.

HAB. Banks of the Irrawaddi in Ava, apparently not unfrequent.—Fl. Fr. Sept.—Jan.

All the Burmese specimens seen by me (including *P. rosea*, Wall. Cat. 1887, with hairy carpels) belong to the above species, none to *P. odorata*, Willd., for which Masters gives Birma as a habitat.

Kydia, Roxb.

1. K. CALYCINA, Roxb. Corom. Pl. III. t. 215 and Fl. Ind. III. 188; Wight Ic. t. 879-880: Bedd. Fl. Sylv. t. 3.; Hf. Ind. Fl. I. 348. (*K. fraterna*, Roxb. Corom. Pl. III. t. 216 and Fl. Ind. III. 189).

HAB. Not uncommon in the mixed and open forests of Pegu and Prome; also Ava. Fl. Jan.; Fr. H. S.

There really may be two different species in India, the one with smaller smooth seeds, the other with larger furrowed seeds. The indument of the Burmese plants is much more floccose, the involucre-leaflets broader; seeds, unripe, appear smooth and smaller.

Decaschistia, WA.

Conspectus of species.

Leaves beneath shortly but densely whitish tomentose; involucre much shorter than the calyx, puberulous; petals about ½ in. long, ...*D. parviflora.*

All parts thickly tomentose; involucre nearly as long as the calyx, densely tomentose; petals nearly 2 in. long, ...*D. crassiuscula.*

D. PARVIFLORA, Kurz in Journ. As. Soc. Beng. 1870. 66.

HAB. Found in the adjoining Siamese province of Kanburi, most probably occurring also in Tenasserim. Fl. Fr. Apr. May.

1. D. CRASSIUSCULA, Kurz in Journ. As. Soc. Beng. 1873. 227.

HAB. Prome District (Col. Eyre).

Masters describes but does not name another large-flowered (flowers pink, 4 in. in diameter) species from Rangoon.

Hibiscus, L.

Conspectus of species.

A. *Leaflets of involucre free, sometimes adnate to the calyx but not connate with one another, or altogether wanting.*

Subg. 1. *Solandra.* Involucre wanting. Herbs with small flowers.

Flowers white, on long slender pedicels, usually forming terminal racemes,...*H. Solandra.*

Subg. 2. *Hibiscus.* Calyx regular, not spathaceous, 5-cleft, more or less persistent, surrounded by a more or less persistent involucre, the leaflets of which are either quite free or sometimes adnate to the calyx.

* Capsule rounded, obtuse or truncate.

O Capsules truncate, winged.

Velvety-pubescent; calyx and involucre tomentose; flowers large, yellow with a dark-purple eye, ...*H. vitifolius.*

O O Capsules rounded or obtuse, not winged.

Capsules glabrous; flowers white, hardly an in. in diameter, the petals reflexed; scabrous herb, ...*H. micranthus.*

Capsules hirsute; all parts, also calyx and involucre densely scurvy tomentose; involucre-leaflets 10; flowers large, white then rose-coloured; a large shrub, ...*H. mutabilis.*

As preceding, but all parts softly tomentose; involucre and calyx densely pubescent; involucre-leaflets in Burm. spec. 7, linear (in Malayan 5, ovate-lanceolate), ...*H. venustus.*

* * Capsules acuminate or acute, not winged.

× Calycine lobes 1-3-nerved, without thickened margins.

† Leaves densely and softly tomentose.

All parts, also calyx and involucre densely tomentose; pedicels shorter than the peduncles; seeds pubescent, ...*H. pandurœformis.*

† † Leaves glabrous or roughish puberulous.

△ Annual herbs. Flowers yellow with dark-purple eye.

Seeds tubercled; leaves glabrous; stem and petioles prickly, ...*H. procerus.*

Seeds smooth; all parts and more especially the calyx and involucre very tubercled-hispid, ...*H. diversifolius.*

Seeds smooth; young parts densely and shortly hispid; involucre-leaflets puberulous or almost glabrous, ...*H. lunarifolius.*

△ △ Shrubs. Flowers from purple to rose-coloured and white. Leaves glabrous, longer than the petioles.

Pedicels shorter than the petioles, ...*H. Syriacus.*

Pedicels elongate, longer than the petioles, ...*H. Rosa Sinensis.*

× × Calycine lobes with a prominent midrib and (especially when in fruit) with thickened usually indurated borders.

O Involucre-leaflets bearing on the back an oblong or linear appendage.

△ Appendage of involucre-leaflets leafy, oblong; flowers pale sulphur with crimson eye.

Flowers about 2 in. in diameter, shortly peduncled; stipules lanceolate; stems stiff-hairy and usually prickly, ...*H. furcatus.*

Flowers about an in. in diameter, on long slender peduncles; stipules large, leafy, semi-lunar; stems prickly, ...*H. Surrattensis.*

△ △ Appendage of involucre-leaflets linear, rarely wanting.

Flowers white or pale-sulphur with a purple eye, or purple, the calyx-lobes without a gland on the midrib, ...*H. radiatus.*

O O Involucre-leaflets entire, without any appendage.

Calyx dry, horny in fruit, the lobes prickly ciliate, with a large gland on the midrib; seeds glabrous,...*H. cannabinus.*

Calyx fleshy, red, the lobes without prickles, usually a little hairy but soon glabrescent; seeds shortly hispid, ...*H. Sabdariffa.*

Subg. 3. *Abelmoschus.* Calyx spathaceous, 5- rarely 3-toothed, deciduous, surrounded by a 5- to 20-leaved free often very deciduous involucre. Seeds glabrous.

× Involucre-leaflets short and small, deciduous already before opening of the flowers.

Flowers rather small, uniform white, ...*H. ficulneus.*

× × Involucre-leaflets narrow linear, often numerous and long; flowers

large, yellow with purple eye.

O Capsules short, 5-angled

† Involucre-leaflets about 10-12.

All parts minutely scabrous; peduncles about twice as long as the capsule, slender; flowers about 1½ in. in diameter, ... *H. sagittifolius.*

All parts spreadingly setose; peduncles as long or shorter than the capsule, strong; flowers 2 to 3 in. in diameter, ...*H. Abelmoschus.*

† † Involucre-leaflets 15 to 20.

Stems hirsute; leaves lobed, tomentose and sprinkled with stiff hairs; involucre-leaflets rather persistent, ... *H. cancellatus.*

O O Capsule elongate-conical, 7-angular.

Involucre-leaflets 10; all parts slightly hairy, ...*H. esculentus.*

× × × Involucre-leaflets broad and leafy, usually large, 4 to 6; flowers yellow with purple eye. Stems setose.

O Involucre-leaflets 4.

Leaves almost glabrous; involucre-leaflets glabrous, along the borders shortly tomentose, ...*H. Manihot.*

Leaves beneath sprinkled with 3-forked short hairs; involucre-leaflets appressed pubescent and setose-ciliate, ... *H. hostilis.*

O O Involucre-leaflets 6.

Leaves hirsute; involucre-leaflets sprinkled with long stiff hairs, ...*H. pungens.*

B. *Leaflets of the involucre united up to the middle or at least at the base, sometimes forming a cup-shaped involucre.*

Subg. 4. *Paritium.* Trees, shrubs or woody climbers.

* Trees or erect shrubs. Seeds glabrous. Flowers large, yellow with purple eye.

Leaves deeply 3-lobed, ...*H. hastatus.*

Leaves not divided, entire or crenulate,... *H. tiliaceus.*

* * Seeds woolly or pubescent.

† Woody climbers.

All parts velvety tomentose, leaves glabrescent above; involucre-leaflets 4-7, velvety, .. *H. scandens.*

† † Trees.

All parts tawny setose; leaves entire, tawny tomentose; involucre-leaflets 10, hirsute, ...*H. macrophyllus.*

1. H. SOLANDRA, L'Her. Stirp. I. 103. t. 49; Roxb. Fl. Ind. III. 197; Hf. Ind. Fl. I. 336.

HAB. Ava, Taong dong and Segain (Wall.)

2. H. VITIFOLIUS, L. Mant. 569; Roxb. Fl Ind. III. 200; Hf. Ind. Fl. I. 338. (*H. truncatus*, Roxb. Fl. Ind. III. 200).

HAB. Not uncommon along borders of fields, in shrubberies, rubbishy places round villages, etc., also in the dry forests, all over Burma from Chittagong and Ava down to Pegu. Fl. R. and C. S.; Fr. H. S.

3. H. MICRANTHUS, L. f. Suppl. 308; Hf. Ind. Fl. I. 335. (*H. rigidus*, L. f. Suppl. 310; Roxb. Fl. Ind. III. 195.)

HAB. Ava, Pagha myo (Wall.).

*4. H. MUTABILIS, L. sp. pl. 977; Roxb. Fl. Ind. III. 201: Bot. Reg. t. 589; Hf. Ind. Fl. I. 344.

HAB. Only cultivated in gardens.

5. H. VENUSTUS, Bl. Bydr. 71; Miq. Fl. Ind. Bot. I/2. 155.

Var. β. BRANDISII, involucre-leaflets constantly 7, narrow linear.

HAB. Upper Tenasserim, Doyoo Kyee Pass (Brandis). Fl. Fr. March.

6. H. PANDURIFORMIS, Burm. Fl. Ind. 151. t. 47. f. 2; Hf. Ind. Fl. 338. (*H. tubulosus*, Cav. Diss. III. 161. t. 68. f. 2; Roxb. Fl. Ind. III. 196).

HAB. Ava (Wall.); Prome, Meaday (R. Scott). Fr. Apr.

7. H. PROCERUS, Wall. Cat. 2692; Hf. Ind. Fl. I. 339.

HAB. Ava (Wall.).

8. H. DIVERSIFOLIUS, Jacq. Ic. rar. t. 551; Roxb. Fl. Ind. III. 208; Bot. Reg. t. 381; Hf. Ind. Fl. I. 339.

HAB. Ava (Wall.).

9. H LUNARIFOLIUS, Willd. sp. pl. III. 811; Wight Ic. t. 6; Hf. Ind. Fl. I. 338. (*H. pruriens*, Roxb. Fl. Ind. III. 196; *H. racemosus*, Ldl. Bot. Reg. t. 917).

HAB. Ava, Segain and towards the Taong dong (Wall.).

*10. H. SYRIACUS, L. sp. pl. 978; Roxb. Fl. Ind. III. 195; Bot. Mag t. 83; Hf. Ind. Fl. I. 344. (*H. Storckii*, Seem. Flor. Vit. 17. t. 4.)

HAB. Occasionally cultivated by the Karens of Martaban.

*11. H. ROSA SINENSIS, L. sp. pl. 977; Roxb. Fl. Ind. III. 194; Bot. Mag. t. 158; Bot. Reg. t. 1826; Hf. Ind. Fl. I. 344.

HAB. Much cultivated in native gardens and villages and occasionally seen in neglected lands round villages. Fl. ∞.

12. H. FURCATUS, Roxb. Fl. Ind. III. 204; Hf. I. 345. (*H. aculeatus*, Roxb. l. c. 206 teste Masters).

HAB. Ava, Irrawadi (Wall.); Arracan, frequent on the lower hills of Koladyne District. Fl. Octob.

13. H. SURRATTENSIS, L. sp pl. 979; Roxb. Fl. Ind. III. 205; Bot. Mag. t. 1356; Wight Ic. t. 197; Hf. Ind. Fl. I. 334. (*H. heterophyllus*, Griff. Not. Dicot. 520.)

HAB. Frequent all over Burma and adjacent provinces, in the leaf-shedding forests, especially the low ones; also in savannahs and deserted tounggyas, etc. Fl. Fr. C. S.

H. aculeatus, Roxb. differs chiefly by the much smaller stipules which, however, pass into those of *H. Surrattensis*.

*14. H. RADIATUS, Cav. Diss. III. 150. t. 54. f. 2; Bot. Mag. t. 1911; Roxb. Fl. Ind. III. 209; Hf. Ind. Fl. I. 335. (*H. sp. Furcaria*, Griff. Not. Dicot. 521).

Var. α. corolla white or pale-sulphur with a purple eye.

Var. β. LINDLEYI (*H. Lindleyi*, Wall. Pl. As. rar. I. t. 4; Bot. Reg. t. 1395; *H. radiatus*, Bot. Mag. t. 5098 ?)

HAB. Much cultivated all over Burma from Chittagong and Ava down to Tenasserim, and often like wild in deserted toungyas. Fl. Fr. C. S.

*15. H. CANNABINUS, L. sp. pl. 979; Roxb. Corom. Pl. II. t. 190 and Fl. Ind. III. 208; Hf. Ind. Fl. I. 339.

HAB. Cultivated in toungyas of Pegu and Martaban, and often as wild in deserted ones.

16. H. SABDARIFFA, L. sp. pl. 978; Hf. Ind. Fl. I. 340.

HAB. Much cultivated all over Burma from Chittagong and Ava down to Pegu, sometimes as wild in deserted toungyas. Fl. Fr. C. S.

*17. H. FICULNEUS, L. sp. pl. 978; Hf. Ind. Fl. I. 340. (*H. prostratus*, Roxb. Fl. Ind. III. 208; *Abelmoschus ficulneus*, WA. Prod. I. 53; Wight Ic. t. 154; *H. strictus*, Roxb. l. c. 206).

HAB. Rarely cultivated in native gardens of Pegu.

18. H. SAGITTIFOLIUS, Kurz in Journ. As. Soc. Beng., 1871, 46. (*H. Abelmoschus*, var. α. *multiformis*, Mast. in Hf. Ind. Fl. I. 342; *H. hastatus*, Cav. Diss. III. 144. t. 50 f. 1 ? non Linn. f.).

HAB. Ava, Meaong (Wall.); Pegu (Brandis). Fl. Sept.

19. H. ABELMOSCHUS, L. sp. pl. 980; Roxb. Fl. Ind. III. 202; Griff. Not. Dicot. 541 ?; Hf. Ind. Fl. I. 342. (*Abelmoschus moschatus*, Moench; Wight Ic. t. 399; *Abelmoschus pseudo-Abelmoschus*, Walp. Rep. I. 308).

HAB. Not unfrequent in the mixed, especially the upper-mixed, forests of Arracan and Pegu; also Tenasserim, Moulmein; Ava, Segain. Fl. Fr. Nov.—Jan.

20. H. CANCELLATUS, L. f. Suppl. 311; Roxb. Fl. Ind. III. 201; Hf. Ind. Fl. I. 342. (*Abelmoschus crinitus*, Wall. Pl. As. rar. I. 39. t. 44).

HAB. Not unfrequent in the dry forests of Prome and Ava; also in the low forests of the Irrawadi zone, Pegu. Fr. January.

Only the form figured by Wallich occurs in Burma, the other with overlapping leaf-bases, more obtuse lobes, and different tomentum seems to be restricted to Hindustan.

*21. H. ESCULENTUS, L. sp. pl. 980; Cav. Diss. III. t. 61. f. 2; Hf. Ind. Fl. I. 343. (*Hibiscus longifolius*, Wild. sp. pl. III. 827; Roxb. Fl. Ind. III. 210).

HAB. Cultivated in Burma (accord. Revd. F. Mason).

*22. H. MANIHOT, L. sp. pl. 980; Bot. Mag. t. 1702 and t. 3152; Hf. Ind. Fl. I. 341. (*H. pentaphyllus*, Roxb. Fl. Ind. III. 212; *Abelmoschus Manihot*, Walp. Rep. I. 311).

HAB. Rarely cultivated by natives in Pegu.

23. H. HOSTILIS, Wall. ap. Mast. in Hf. Ind. Fl. I. 342.

HAB. Not uncommon in the upper mixed forests of the Pegu Yomah; also Ava (Wall.) Fl. Fr. C S.

24. H. PUNGENS, Roxb. Fl. Ind. III. 213; Hf. Ind. Fl. I. 341.

HAB. Upper mixed forests of the northern parts of the Pegu Yomah at about 1200 to 2000 ft. elevation. Fr. C. S.

*25. H. HASTATUS, L. f. Suppl. 310 (non Cav.) (*H tricuspis*, Cav. Diss. III. 152. t. 55. f. 2; Roxb. Fl. Ind. III. 202; Hf. Ind. Fl. I. 344).

HAB. Rarely cultivated in gardens. Fl. R. S.

26. H. TILIACEUS, L. sp pl. 976; Roxb. Fl. Ind. III. 192; Hf. Ind. Fl. I. 343. (*Paritium tiliaceum*, A. Juss. in St. Hil. Fl. Bras. I. 198; Wight Ic. t. 7; Griff. Not. Dicot. 523.)

Var. β. TORTUOSUS, Mast. in Hf. l. c. (*H. tortuosus*, Roxb. Fl. Ind. III. 192; Bot. Reg. t. 232).

HAB. Common in the beach and tidal forests all along the shores from Chittagong down to Tenasserim and the Andamans, ascending the rivers as far as the tidal waves. Fl. Fr. ∞.

27. H. MACROPHYLLUS, Roxb. Hort. Beng. 1814. 51; Wall. Pl. As. rar. I. 44. t. 51; Hf. Ind. Fl. I. 337. (*H. vulpinus*, Rwdt. Cat. Buitenz. 88; Miq. Fl. Ind. Bat. I/2. 157; *H. spathaceus*, Bl. Bydr. 72; *H. setosus*, Roxb. Fl. Ind. III. 193.)

HAB. Frequent in the tropical forests all over Burma from Chittagong and Martaban down to Tenasserim. Fl. Fr. R. S.

If the principle of the priority of the name first accompanied by a description be adhered to, Blume's name will have to be adopted. Unlike Wallich, Roxburgh described and figured the plants that he named, and unfortunate circumstances beyond his control and finally death prevented their publication: hence I consider that his *Hortus Benghalensis* claims priority.

28. H. SCANDENS, Roxb. Fl. Ind. III. 200; Hf. Ind. Fl. I. 337.

HAB. Frequent in the tropical forests of Martaban. Fl. Fr. March, Apr.

Thespesia, Corr.

Conspectus of species.

All younger parts and unripe capsules covered with rusty coloured scales; leaves glabrous; a tree, ...*T. populnea.*

All younger parts and usually the leaves beneath shortly stellate tomentose; unripe capsules densely hirsute, a meagre shrub, ...*T. Lampas.*

1. TH. POPULNEA, Corr. Ann. Mus. IX. 290; Wight Ic. t. 8; Hf. Ind. Fl. I. 345; Bedd. Fl. Sylv. t. 63. (*Hibiscus populneus*, Roxb. Fl.

Ind. III. 190; *Hibiscus populneoides*, Roxb. l. c. 191; *Thesp. macrophylla*, Bl. Bydr. 73; Miq. Fl. Ind. I/2. 151).

Hab. Common in the beach and tidal forests all along the shore from Chittagong down to Tenasserim and the Andamans; Ava, Bhamo and Sabado (J. Anderson). Fl. Sept. Fr. March, May.

The occurrence of this saltloving tree in Ava is unique and requires explanation. Brine springs are numerous in Prome and Ava, and may possibly account for such an exceptional re-appearance of a sea-shore plant in the interior of Burma.

2. Th. Lampas, Dalz. in Dalz. and Gibs. Bombay Fl. 19; Hf. Ind. Fl. I. 345. (*Hibiscus Lampas*, Cav. Diss. III. 154. t. 56. f. 2; Roxb. Fl. Ind. III. 197; Wight Ic. t. 5; *H. tetralocularis*, Roxb. l. c. 198?; *Azanza Zollingeri*, Alef. in Bot. Zeit. 1861. 298).

Hab. Frequent in all leaf-shedding forests, especially the mixed ones, also in savannahs; all over Burma. Fl. Fr. C. & H. S.

Gossypium, L.

Conspectus of species.

Annual; seeds free, clothed with firmly adhering silky down,... ... *G. herbaceum.*
Shrubby; perennial; seeds black, free or cohering, devoid of adhering pubescence, .. *G. Barbadense.*

*1. G. herbaceum, L. sp. pl. 975; Roxb. Fl. Ind. III. 184; Royle Ill. Him. Pl 98. t. 23. f. 1; Wight Ic. t. 10; Hf. Ind. Fl. I. 346.

Var. α. herbaceum, (*G. herbaceum*, L. l. c.; *G. hirsutum*, Roxb. Fl. Ind. III. 187; *G. Barbadense*, Wight Ill. t. 28/c.) lobes of leaves acuminate. Var. β. *hirsutum*. Mast. in Hf. l. c. (*G. hirsutum*, L. sp. pl. 975; DC. Prod. I. 456; *G. obtusifolium*, Roxb. Fl. Ind. III. 183; *G. herbaceum*, Wight Ic. t. 9.), leaves with usually blunt lobes, the upper ones often undivided, with or without a gland on the midrib beneath; involucre-leaflets entire or serrate; capsules when ripe green; cotton white.

Hab. Var. α. and β. much cultivated all over Burma, and often seen as wild in deserted toungyas and neglected lands. Fl. Fr. C. and H. S.

*2. G. Barbadense, L. sp. pl. 975; Roxb. Fl. Ind. III. 187; Hf. Ind. Fl I. 347. p. p.

Hab. Rarely seen in gardens in Pegu.

Bombax, L.

Conspectus of species.

Leaflets on a 10 to 12 lin. long petiolule; staminal bundles consisting of 15 to 20 strong and thick filaments, ...*B. Malabaricum.*
Leaflets decurrent on the short 2 to 3 lin long petiolule; staminal bundles consisting of 50 or more long filiform filaments, ...*B. insigne.*

1. B. MALABARICUM, DC. Prod. I. 479; Bedd. Fl. Sylv. Madr. t. 82; Hf. Ind. Fl. I. 249. (*Salmalia Malabarica*, Schott. Melet. 35; *B. heptaphylla*, Cav. Diss. V. 296; Roxb. Corom. Pl. III. t. 247 and Fl. Ind. III. 167; Wight Ill. t. 29. *a. b.*).

HAB. Frequent in all leaf-shedding forests, especially the mixed ones, all over Burma from Chittagong and Ava down to Tenasserim. Fl. H. S. Fr. C. S.

2. B. INSIGNE, Wall. Pl. As. rar. I. 71. t. 79 and 80; Hf. Ind. Fl. I. 349.

HAB. Frequent in the upper mixed forests of the Pegu Yomah and the Andamans; also Ava. Fl. H. S. Fr. C. S.

Eriodendron, DC.

1. E. PENTANDRUM (*Bombax pentandrum*, L. sp. pl. 989; Cav. Diss. V. 293. t. 151; Roxb. Fl. Ind. III. 165; *E. anfractuosum*, DC. Prod. I. 479; Wight Ic. t. 400; Griff. Not. Dicot. 533; Hf. Ind. Fl. I. 350).

HAB. Rare (one tree only seen) in the coast forests of South Andaman; here and there cultivated in Pegu and Tenasserim.

One of those trees that are stated to be very frequent in the Indian jungles, but I myself have never succeeded in seeing it in a truly wild state, although the loftiness of the tree and the decussate ternation of its branches would render it recognizable from a long distance.

Durio, L.

1. D. ZIBETHINUS, L. sp. pl. 698; Kœn. in Trans. Linn. Soc. VII. 266; t. 14—16; Roxb. Fl. Ind. III, 399; Griff. Not. Dicot. 528. t. 596; Hf. Ind. Fl. I. 351.

HAB. Tenasserim. Fr. May, June.

Helfer writes in his second report on the resources of Tenasserim: "This tree does not grow so far north as Moulmein, some few trees excepted which are grown as a rarity on the island of Beloo. Its sphere begins at Tavoy; large plantations occur to the E. of Mount Burney, and very fine specimens in the valley of Taunbiaun. Lower down on the Tenasserim, the tree begins to grow almost spontaneously, and in lat. 14° it forms large forests."

The Burmese specimens in Dr. Brandis' herbarium, although destitute of corolla, do not differ from the Malayan durian, and the calyx is the same in size as well as in shape.

STERCULIACEÆ.

Conspectus of species.

Trib. I. STERCULIEÆ. Flowers unisexual or polygamous. Petals none, Anthers 5-15, sessile, surrounding the stalked ovary or in males the top of a shorter or longer column, or shortly polyadelphous. Mature carpels distinct, sessile or stalked.

* Anthers irregularly clustered, numerous. Fruit dehiscent.

1. Sterculia. Ovules 2 or more in each cell. Carpels follicular.

* * Anthers 5, in a ring. Carpels indehiscent.

2. Heritiera. Ovules solitary. Carpels often of a firm texture.

Trib. II. HELICTEREÆ. Flowers hermaphrodite. Petals deciduous. Anthers 5-15, sessile or on short filaments, situated on the margin of the cup-like dilated summit of the column and usually alternating with staminods.

3. Helicteres. Anther-cells divaricate or confluent into one. Fruit a capsule, sometimes twisted. Seeds not winged.

4. Pterospermum. Anther-cells parallel. Capsule woody, terete or 5-angular. Seeds winged.

Trib. III. ERIOLÆNEÆ. Flowers hermaphrodite. Petals deciduous. Anthers numerous on the outside of the tubular or conical column from the middle to the top. Staminods none.

5. Eriolæna. Capsules woody, 5-valved.

Trib. IV. DOMBEYEÆ. Flowers hermaphrodite. Petals usually persistent, flat. Anthers 10 to 20, rarely 5, united into a short cup at or near the top of the column, the cells parallel. Staminods 5 or none.

× Anthers 15, rarely 10.

6. Pentapetes. Bracteoles caducous. Sepals herbaceous. Ovary-cells with several ovules. Style simple.

× × Anthers 5.

7. Melhania. Bracteoles 3, persistent. Stamens united into a cup, with 5 intervening elongate staminods.

Trib. V. HERMANNIEÆ. Flowers hermaphrodite. Petals marcescent, flat. Stamens 5, shortly united or rarely tubular at base only. Staminods usually none.

× Ovary 5-celled.

8. Melochia. Capsules almost globular. Seeds wingless. Herbs or undershrubs.

9. Visenia. Capsules deeply 5-lobed. Seeds winged at their extremities. Trees.

× × Ovary 1-celled.

10. Waltheria. Calyx campanulate. Staminods none.

Trib. VI. BUETTNERIEÆ. Flowers hermaphrodite. Petals concave at base, usually appendaged at top. Anthers 5-15, rarely numerous, introrse, the filaments united into a shorter or longer tube, solitary or in groups alternating with the staminods.

O Anthers by 2-4 alternating with a staminod.

11. Abroma. Petals with a clawed ovate blade. Capsule 5-winged.

12. Guazuma. Petals clawed, with a linear 2-cleft blade. Fruit globular, woody tubercled.

13. Leptonychia. Petals concave, not clawed. Filaments long, only at base connate, alternating by 2 with the short staminods, at the back augmented by a series of subulate staminods.

O O Anthers singly alternating with the staminods.

14. Buettneria. Petals cucculate at the clawed base. Staminods short and blunt. Capsules woody, variously armed.

Sterculia, L.

Conspectus of species.

Subg. 1. *Sterculia.* Seeds without wings, 2 or more along the suture of the coriaceous carpels, never inserted at the base.

* Leaves digitate.

Leaves glabrous; calyx rather large, the lobes spreading, ...*St. fœtida.*

Leaves canescent tomentose beneath; calyx small, the lobes conniving, short, ...*St. versicolor.*

* * Leaves palmately lobed or cut. Leaf-shedding trees.

Carpels densely covered with stiff fragile hairs; flowers small, ...*St. urens.*

Carpels shortly tomentose from stellate hairs, ...*St. villosa.*

Carpels densely covered with stiff short hairs, glabrescent; flowers nearly ¾in. in diameter, ...: ...*St. ornata.*

* * * Leaves all entire. Small evergreen trees or meagre shrubs.

O Leaves quite glabrous.

× Calyx-lobes not spreading, almost erect or more usually conniving with their tips.

Calyx shortly tubular, striate, the lobes of the length of the tube, ...*St. longifolia.*

× × Calyx almost rotate.

Calyx lobes from a broader base linear, very long and somewhat twisted, ..*St. coccinea.*

O O Leaves more or less tomentose or puberulous, at least beneath.

× Flowers more than ½ in. long, in simple brown tomentose racemes.

Leaves beneath and petioles softly rusty pubescent, ...*St. rubiginosa.*

× × Flowers in panicles.

Leaves tomentose; calyx-lobes free and spreading; flowers long-pedicelled, ...*St. angustifolia.*

Leaves beneath minutely stellate-puberulous; calyx-lobes short and connivent; flowers shortly pedicelled, ...*St. parviflora.*

Subg. 2. *Firmiana.* Calyx tubular. Seeds without wings. Carpels chartaceous and expanded leaflike, bearing 1 or 2 seeds along the marginal sutures at about ½ of their length.

Leaves more or less lobed, occasionally almost entire, glabrous or puberulous beneath; calyx about 8-9 lin. long, ...*St. colorata.*

Leaves very large, much lobed, pubescent beneath; calyx about 1 to 1½ in. long, ...*St. fulgens.*

Subg. 3. *Scaphium.* (incl. *Pterocymbium* and *Carpophyllium*). Calyx more or less campanulate. Seeds without wings, solitary, laterally adnate to the base of the boat-shaped chartaceous or membranous follicles.

* Follicles produced below at about the middle into an additional bluntish sac-like lobe.

Leaves more or less tomentose or puberulous beneath; calyx campanulate, green, ...*St. campanulata.*

* * Follicles not produced into an additional lobe.

Leaves coriaceous, glabrous, glossy; calyx almost rotate, yellowish, ...*St. scaphigera.*

Subg. 4. *Pterygota.* Seeds numerous, winged along their upper end, enclosed in a woody large follicle.

Leaves entire, glabrous, 5-nerved at base; follicles as large as the fist, ... *St. alata.*

1. ST. FŒTIDA, L. sp. pl. 1431; Roxb. Fl. Ind. III. 154; Wight Ic. t. 181 and 364; Hf. Ind. Fl. I. 354.

HAB. Not unfrequent in the upper mixed forests of the Pegu Yomah. Fl. Apr. May; Fr. Febr. March.

2. St. versicolor, Wall. Pl. As. rar. I. 48. t. 59; Hf. Ind. Fl. I. 355.

Hab. Ava, on limestone hills on the right side of the Irrawaddi near Segain (Wall.) Fl. Octob.

3. St. urens, Roxb. Corom. Pl. I. t. 24 and Fl. Ind. III. 145; Hf Ind. Fl. I. 355.

Hab. Not unfrequent in the drier upper mixed forests of the Pegu Yomah and Martaban; and in the mixed dry forests of Prome; also Tenasserim. Fr. March.

4. St. villosa, Roxb. Fl. Ind. III. 153; Hf. Ind. Fl. I. 355.

Hab. Frequent in the upper mixed forests of the Pegu Yomah and Martaban; Tenasserim; Andamans. Fl. H. S.; Fr. Begin of R. S.

5. St. ornata, Wall. ap. Voigt Hort. Calc. 105; Kurz in Journ. As. Soc. Beng. 1873. 228.

Hab. Not unfrequent in the tropical forests of the Pegu Yomah and Martaban down to Tenasserim. Fl. Febr.; Fr. March, Apr.

6. St. longifolia, Vent. Malm. II. No. 91. in adnot.; DC. Prod. I. 482; Miq. Fl. Ind. Bat I/2. 173. (*St. striatiflora*, Mast. in Hf. Ind. Fl. I. 356).

Hab. Birma (Griff. 586); probably Tenasserim.

7. St. coccinea, Roxb. Fl. Ind. III. 151; and Hook. Bot. Misc. I. 286; Hf. Ind. Fl. I. 357.

Hab. Frequent in the tropical forests of the Pegu Yomah and Martaban down to Tenasserim. Fl. March; Fr. Apr.

Masters refers my Pegu specimens to a species which he calls *St. lævis*, Wall., but my plant is certainly Roxburgh's.

8. St. rubiginosa, Vent. Hort. Malm. II. 91 in adn.; Hf. Ind. Fl. I. 358.

Hab. Birma (teste Masters).

9. St. angustifolia, Roxb. Fl. Ind. III. 148; DC. Prod. I. 482; Walp. Rep. V. 100.

Var. *α*. angustifolia, leaves on petioles 8 to 10 lin. long, lanceolate or broadly lanceolate, acuminate.

Var. *β*. mollis (*St. mollis*, Wall. Cat. 1131; Walp. Rep. V. 101), leaves obovate oblong, on petioles 4 to 5 lin. long, shortly acuminate, rounded at the narrowed base; tomentum almost velvety; pedicels much shorter.

Hab. Both varieties in Tenasserim (Wall. Falc. Helf.) Fl. Febr.; Fr. Apr.

10. St. parviflora, Roxb. Fl. Ind. III. 147; Hf. Ind. Fl. I. 359.

Hab. Andamans, in the coast-forests. Fr. Apr. May.

My specimens being in fruit only the identification is somewhat doubtful, but they agree otherwise with Malacca specimens. Masters mentions *St. guttata*, Roxb. as growing on the Andamans.

11. St. COLORATA, Roxb. Corom. Pl. I. t. 23 and Fl. Ind. III. 146; Hook. Ic. pl. t. 143; Hf. Ind. Fl. I. 359.

HAB. Frequent in all leaf-shedding forests all over Burma from Chittagong and Ava down to Tenasserim and the Andamans. Fl. H. S.; Fr. H. and begin of R. S.

12. St. FULGENS, Wall. Cat. 1135 (*Firmiana colorata, β. fulgens*, R. Br. and Benn. in Horsf. Pl. Jav. rar. 235; Walp. Rep. V. 104).

HAB. Ava, Taong dong; Tenasserim, Moulmein (Wall.)

I know not what Masters describes under the above name, unless it be the N. W. Indian *St. pallens*, Wall. ap. Voigt Cat. H. Bot. Calc. 105, a totally different tree with pale yellowish softly tomentose smaller and more campanulate flowers and different leaves.

13. St. CAMPANULATA, Wall. ap. Voigt. Hort. Calc. 105; Kurz in Flora 1872. 495.; Hf. Ind. Fl. I. 362. (*Pterocymbium Javanicum*, R. Br. in Horsf. Pl. Jav. rar. 219. t. 45; Miq. Fl. Ind. Bat. I/2. 179).

HAB. Frequent in the tropical forests along the eastern slopes of the Pegu Yomah and Martaban. Fl. March; Fr. Apr.

14. St. SCAPHIGERA, Wall. Cat. 1130; Hf. Ind. Fl. I. 361. (*Scaphium Wallichii*, Schott and Endl. Melet. 33; Walp. Rep. V. 104; *Carpophyllium macropodum*, Miq. Suppl. Fl. Sumatr. 401).

HAB. Frequent in the tropical forests along the eastern and central slopes of the Pegu Yomah and Martaban; also Tenasserim. Fl. Febr. March; Fr. March, Apr.

15. St. ALATA, Roxb. Corom. Pl. III. 84. t. 287 and Fl. Ind. III. 182; Hf. Ind. Fl. I. 360. (*St. Heynii*, Bedd. Fl. Sylv. t. 230).

HAB. Frequent in the tropical forests all over Chittagong, Pegu and Martaban down to Tenasserim; also on the Andamans. Fl. Febr. March, Fr. Apr. May.

Doubtful species.

1. St. LINGUIFOLIA, Mast. in Hf. Ind. Fl. I. 357.

HAB. Tenasserim, Tavoy (Parish).

2. St. ENSIFOLIA, Mast. in Hf. Ind. Fl. I. 359.

HAB. Tenasserim, Mergui (Griff.)

Heritiera, Ait.

Conspectus of species.

* Carpels glossy or at least smooth, brown; leaves shortly petioled.

Leaves usually cordate or rounded at base; carpels strong-crustaceous, obliquely ovoid with a sharp keel pointed at the summit, ...*H. Tothila.*

Leaves usually narrowed at base; carpels fibrous-woody under the thin bladdery epicarp, obliquely and broadly depressed, the keel at the summit broad and almost wing-like, ... *H. minor.*

* * Carpels sea-green or grey, rough and corky-tubercled; leaves long petioled. Carpels obliquely ovoid, keel indistinct, at the extremity produced into a thick narrow wing-like appendage, ... *H. macrophylla.*

1. H. Tothila, (*H. littoralis*, Dry. in Ait. Hort. Kew. III. 546; Roxb. Fl. Ind. III. 142; DC. Prod. I. 63; *Balanopteris Tothila*, Gærtn. Fr. II. t. 99; Rheede Hort. Mal. VI. t. 21).

Hab. Frequent in the tidal forests all along the sea-shore from Chittagong down to Tenasserim and the Andamans. Fl. Apr. May; Fr. May.

2. H. minor, Lamk. Dict. III. 229; DC. Prod. I. 484; Roxb. Fl. Ind. III. 142. (*H. fomes*, Buch. in Sym. Ava Emb. 1800. t. 28; Hf. Ind. Fl. I. 363; *Balanopteris minor*, Gærtn. Fr. II. 1791. t. 98. f. 2; *H. littoralis*, Griff. Not. Dicot. 532. t. 585. f. 3).

Hab. Frequent in the tidal forests all along the Burmese shores from Chittagong down to Tenasserim, ascending the rivers as far as the tidal waves. Fl. Febr. Jun.; Fr. R. S.

3. H. macrophylla, Wall. ap. Voigt Hort. Calc. 103; Kurz in Journ. As. Soc. Beng. 1873. 61. and in Trim. Journ. Bot. 1874. 66. fig. 7.

Hab. Upper Tenasserim, at the foot of a hill a mile above Trogla (Wall. Cat. 1162).

Helicteres, L.

Conspectus of species.

Sect. 1. *Spirocarpæa.* (*Isora*, Schott and Endl.). Carpels spirally twisted; leaves unequally serrate.

Calyx about ½ in. long or longer, ...*H. Isora.*

Sect. 2. *Orthocarpæa.* (*Oudemansia*, Miq.). Carpels straight or nearly so.

* Calyx about ½ in. long or longer. Leaves unequally serrate or toothed.

Calyx laxly stellate-woolly and viscid, ...*H. viscida.*

Calyx shortly scurvy tomentose, ...*H. hirsuta.*

* * Calyx only 2 or 3 lin. long.

O Carpels firmly cohering forming a densely villous-echinate apiculate or obtuse capsule. Leaves entire or obtusely serrate, shortly whitish-tomentose beneath.

Stems tawny tomentose; leaves sprinkled above with stellate hairs, blunt or acute, ...*H. obtusa.*

Stems glabrescent; leaves glabrous above, acuminate, ...*H. lanceolata.*

O O Carpels loosely cohering, with the points all free, shortly hairy echinate. Leaves never whitish pubescent beneath, serrate.

Flowers in short axillary racemes, ...*H. plebeja.*

Flowers in elongated slender racemes usually much longer than the pubescent leaves, ... *H. elongata.*

1. H. ISORA, L. sp. pl. 1366; Roxb. Fl. Ind. III. 143; Wight Ic. t. 180; Bot. Mag. t. 2061; Hf. Ind. Fl. I. 365.

HAB. Burmah (accord. Revd. Dr. F. Mason.)

2. H. VISCIDA, Bl. Bydr. 79; Walp. Rep. I. 334. (*Oudemansia viscida*, Miq. Fl. Ind. Bat. I/2. 171; *H. spicata*, var. *lanigera*, Mast. in Hf. Ind. Fl. I. 366).

HAB. Ava, Taong dong (Wall.)

3. H. HIRSUTA, (Lour. Fl. Coch. II. 648 ?); Bl. Bydr, 80. (*Oudemansia hirsuta*, Miq. Fl. Ind. Bat. I/2. 171; *H. spicata*, Colebr. in Roxb. Hort. Beng. 97; G. Don. Gen. Syst. I. 507; Walp. Rep. I. 332; *H. oblonga*, Wall. ap. G. Don. l. c. Walp. Rep. I. 332 and II. 794 and Ann. IV. 320).

Var. *α*. SPICATA, (*H. spicata*. Coleb. l. c.).

Var. *β*. OBLONGA, (*H. oblonga*, Wall. l. c.; *H. vestita*, Wall. Cat. 1844).

HAB. Var. *β*. Tenasserim, from Moulmein to Tavoy. Fl. March.

4. H. OBTUSA, Wall. Cat. 1184; Kurz in Journ. As. Soc. Beng. 1873. 62; Hf. Ind. Fl. I. 366.

HAB. Tenasserim, from Moulmein to Mergui; Pegu (Macl. teste Mast.); Andamans (V. Ball.) Fl. June; Fr. Jan. to Apr.

This is evidently a near ally to *H. virgata*, Wall. which some authors incorrectly combine with *H. Javensis*, Hassk. (= *Oudemansia integerrima*, Miq, and *H. lanceolata*, DC.). The Chinese *H. angustifolia*, L. (*H. virgata*, Wall.) differs greatly by the small stellate-velvety-tomentose capsules. Also the shape and nervature of the leaves and the indumentum of the flowers appear to me different. Masters gives Mergui as a habitat for it, but he evidently has two or three species in view.

5. H. PLEBEJA, Kurz in Journ. As. Soc. Beng. 1870. 67; Hf. Ind. Fl. I. 366. (*H. glabriuscula*, Wall. Cat. 1185, nomen nudum; Hf. Ind. Fl. I. 366).

HAB. Frequent in the mixed, especially the upper mixed, forests of Arracan, Pegu and Martaban, up to 3000 ft. elevation; also Ava. Fl. Oct. Sept.; Fr. Jan. Febr.

The species is also frequent in the Sikkim Terai.

6. H. ELONGATA, Wall. Cat. 1845; Hf. Ind. Fl. I. 365.

HAB. Ava, Taong-dong etc.

Hardly more than an elongate-racemed variety of the preceding.

Pterospermum, Schreb.

Conspectus of species.

* Capsules distinctly 5-cornered. Leaves large and broad.

O Stipules and bracteoles pinnatifid.

Calyx lobes 3-4 in. long; style towards the base villous, ...*P. acerifolium.*

O O Stipules...; bracteoles entire.

Calyx-lobes 1½-2 in. long; style glabrous, ...*P. aceroides.*

* * Capsules terete or nearly so.

O Leaves semi-sagittate at base; stipules pinnatifid.

Flowers 3 in. long or longer; bracteoles large, divided into several many-cleft and jaggy lobes, forming an involucre, ...*P. semisagittatum.*

O O Leaves never semi-sagittate, usually small, entire or shortly lobed; stipules small, entire or 2-3-cleft; flowers not above 2 in. long.

† Pedicels much longer than the petioles.

Leaves usually greyish or whitish tomentose beneath, acuminate; stipules and bracteoles 2-3- rarely 5-cleft. Capsules greyish or whitish velvety, ...*P. lanceæfolium.*

† † Pedicels short, about the length of the petioles or rarely a little longer.

Leaves entire, acuminate, beneath rusty coloured (rarely greyish) tomentose; stipules and bracteoles linear-subulate, with a cucullate basal appendage; capsules brown scurvy-tomentose, glabrescent, ...*P. cinnamomeum.*

Leaves usually small; stipules and bracteoles entire, lanceolate, ...*P. Blumeanum.*

1. P. ACERIFOLIUM, Willd. sp. pl. III. 729; Roxb. Fl. Ind. III. 158; Bot. Mag. t. 620; Wight Ic. t. 631; Hf. Ind. Fl. I. 368. p. p.

HAB. Frequent in the tropical and moister upper mixed forests along choungs all over Burma from Chittagong and Ava down to Tenasserim and the Andamans. Fl. H. S.; Fr. C. S.

2. P. ACEROIDES, Wall. Cat. 1171; Kurz in Journ. As. Soc. Beng. 1873. 62.

HAB. Tenasserim, and Andamans, in tropical forests. Fl. H. S.

Pt. diversifolium, Bl. appears to be an intermediate form between *Pt. acerifolium* and *Pt. aceroides*, having the flowers and styles of the former but smaller, and the bracteoles of the latter.

3. PT. SEMISAGITTATUM, Roxb. Hort. Beng. 50 and Fl. Ind. III. 160; Hf. Ind. Fl. I. 368.

HAB. Frequent in the mixed and dry forests all over Burmah from Chittagong and Ava down to Tenasserim. Fl. H. S.; Fr. C. S.

4. PT. LANCEÆFOLIUM, Roxb. Fl. Ind. III. 163; Hf. Ind. Fl. I. 368.

HAB. Chittagong; Tenasserim, Tavoy (Wall. teste Mast.)

5. P. CINNAMOMEUM, nov. sp.

HAB. Not unfrequent in the tropical forests of Martaban; also Tenasserim. Fr. March.

I attempted to identify the above species with *Pt. fuscum*, Korth. when I had only fruits, but Khasya flowering specimens shew its complete distinctness. Some Khasya specimens in leaf distributed from Kew under the name *Pt. lanceæfolium* belong here. It is nearest to *P. rubiginosum*.

6. PT. BLUMEANUM, Korth. Ned. Kruidk. Arch. I. 311; Miq. Fl. Ind. Bat. I/2. 191.

HAB. Tenasserim (Helf. 569).

Eriolæna, DC.

1. E. CANDOLLEI, Wall. Pl. As. rar. I. 51. t. 64; Hf. Ind. Fl. I. 370.

HAB. Not unfrequent in the dry and low, rarely in the mixed, forests of Prome and Ava down to Martaban and Pegu. Fl. H. S.; Fr. C. S.

Pentapetes, L.

1. P. PHŒNICEA, L. sp. pl. 958; Roxb. Fl. Ind. III. 157; Bot. Reg. t. 525; Hf. Ind. Fl. I. 371. (*Eriorhaphe punicea*, Miq. Pl. Jungh. I. 289).

HAB. In cultivated plains, along rice-fields, etc., in Pegu, Ava and Prome. Fl. R. S.

Melhania, Forsk.

1. M. HAMILTONIANA, Wall. Pl. As. rar. I. 69. t. 77; Walp. Rep. I. 349; Hf. Ind. Fl. I. 372.

HAB. Ava, frequent along the sandy dry banks of the Irrawaddi; also Taong-dong (Wall.). Fl. Sept. Oct.; Fr. Nov.

Melochia, L.

1. M. CORCHORIFOLIA, L. sp. pl. 944; Roxb. Fl. Ind. III. 139; Hf. Ind. Fl. I. 374.

HAB. Common as well in cultivated lands, waste places around villages, long-grassed pastures, etc., as in the leaf-shedding forests, all over Burma and adjacent provinces. Fl. Fr. Sept. to Octob.

Visenia, Houtt.

1. V. INDICA, Houtt. Syst. Linn. VI. 287. t. 46; Miq. Fl. Ind. Bat. I/2. 189. (*V. umbellata*, Bl. Bydr. 88; Wight Ic. t. 509; *Riedleia velutina*, DC. Prod. I. 491; *Melochia velutina*, Bedd. Fl. Sylv. t. 5; Hf. Ind. Fl. I. 374).

HAB. Rather rare in the tropical forests of Pegu, Martaban and Tenasserim (Brandis). Fl. R. S.

Waltheria, L.

1. W. AMERICANA, L. sp. pl. 941; DC. Prod. I. 492. (*W. Indica*, L. l. c. 941; Hf. Ind. Fl. I. 374).

HAB. Not uncommon on the lower hills of the Irrawaddi valley from Ava (Segain) to Prome. Fl. Sept. Oct.

Guazuma, Plum.

*1. G. TOMENTOSA, H. B. K. Nov. Gen. V. 320; Wight Ill. t. 31; Bedd. Fl. Sylv. Madr. t. 107; Hf. Ind. Fl. I. 375.

HAB. An American tree sometimes seen planted as an avenue-tree. Fl. R. S.; Fr. C. S.

Leptonychia, Turcz.

Conspectus of species.

Outer staminods 15, the inner staminods ciliate; capsule 1-celled, rugose, ...*L. glabra.*
Outer staminods 10, the inner not ciliate; ovary and capsule 3-5-celled and lobed, the latter minutely tubercled, ...*L. heteroclita.*

1. L. GLABRA, Turcz in Bull. Mosc. 1858. 222; Hf. Ind. Fl. I. 379. excl. syn.

HAB. Tenasserim (Helf. 658); Moulmein (Lobb. teste Mast.).

2. L. HETEROCLITA, Kurz in Journ. As. Soc. Beng. 1870. 67. excl. syn. Turcz. (*Grewia heteroclita*, Roxb. Fl. Ind. II. 590; *Binnendykia trichostylis*, Kurz in Tydsch. Nat. Ver. Ned. Ind. ser. 3. III. 164; *L. moacurroides*, Bedd. Fl. Sylv. Madr. t. 114; Hf. Ind. Fl. I. 379; *Grewia acuminata*, Bedd. in Linn. Trans. XXV. 210?; Hf. Ind. I. 393?).

HAB. South Andaman, in tropical forests.

Buettneria, L.

Conspectus of species.

× Leaves cordate-oblong, entire.
Capsules large, greyish velvety, covered with strong woody prickles, ...*B. aspera.*
× × Leaves more or less lobed or angular. Capsules the size of a cherry
More or less roughish stellate-tomentose; capsules densely covered with brown setose flexible bristles, ...*B. pilosa.*
Glabrous or almost so; capsules covered with long stiff smooth bristles, *B. Andamanensis.*

1. B. ASPERA, Colebr. ap. Wall. in Roxb. Fl. Ind. ed. Car. II. 383; Hf. Ind. Fl. 1. 377.

HAB. Not unfrequent in the tropical forests from Pegu and Martaban down to Tenasserim and the Andamans. Fl. Apr. May.

2. B. PILOSA, Roxb. Fl. Ind. I. 618; Hf. Ind. Fl. I. 377.

HAB. Frequent in tropical and mixed forests all over Burma and adjacent provinces. Fr. C. S.

3. B. ANDAMANENSIS, Kurz in Andam. Rep. App. B. p. 3. and Journ. As. Soc. Beng. 1871. 47; Hf. Ind. Fl. I. 377.

HAB. Frequent in the coast forests of South Andaman; also Upper Tenasserim, along the Thoungyeen and Attaran rivers (Brandis); Moulmein (Lobb). Fr. H. S.

Doubtful species.

I. B. CRENULATA, Wall. Cat. 1150; Hf. Ind. Fl. I. 376.

HAB. Pegu (McLelland); Tenasserim, Attaran and Salween (Wall.) ex Masters.

Wall. Cat. 1152 is mentioned in the Lith. List as *Kleinhovia hospita*. *B. catalpifolia*, as represented in the Wallichian Herb. in H. B. C., is a Caracas plant, cultivated and collected in H. B. C. and bears no number.

B. echinata Wall. Cat. 1149 is the only No. which I have myself seen, and consists of loose leaves and a piece of a capsule, the former differing from his *St. parviflora*, Wall. Cat. 1121 from Silhet only in size, the latter almost indistinguishable from *B. Andamanensis*. Nipal is also given as a locality but Wallich's Nos. cited are all Burmese.

TILIACEÆ.

Conspectus of genera.

A. *Anthers opening by slits.*

Trib. I. BROWNLOWIEÆ. Sepals united into a bell-shaped 3- to 5-cleft calyx. Anthers short, usually globular or didymous, the cells ultimately confluent at the top.

* The 5 inner stamens reduced to staminods.

1. BROWNLOWIA. Carpels distinct, globular, 2-valved.
2. PENTACE. Fruits 3-5-winged, indehiscent, by abortion 1-seeded.

* * Anthers all anther-bearing,

3. BERRYA. Capsule 3-4-valved, with twice as many wings. Styles 1-4, filiform.

Trib. II. GREWIEÆ. Sepals distinct. Petals with a basal scale more or less adnate, inserted round the base of a more or less raised torus bearing at the top the stamens. Anthers short, the cells parallel and distinct.

* Fruit dry, winged.

4. COLUMBIA. Fruit 3-5-celled, separating into as many 2-winged cocci.

* * Fruit more or less drupaceous, not winged.

O Fruit unarmed, tomentose to glabrous.

5. GREWIA. Drupes more or less lobed or globular.

O O Fruits prickly.

6. TRIUMFETTA. Drupe usually small, globular, indehiscent or separating into cocci.

Trib. III. TILIEÆ. Sepals distinct. Petals without a scale at base, inserted directly round the stamens.

* Capsule opening loculicidally, almost pod-like or globular, many-seeded.

7. CORCHORUS. Stamens all anther-bearing. Capsules pod-like or globular, striate or muricate.

* * Fruits globular, indehiscent, usually 1-seeded.

8. SCHOUTENIA. Calyx enlarged under the fruit, membranous, spreading. Stamens free, all anther-bearing.

B. *Anthers opening by apical pores.*

Trib. IV. SLOANEÆ. Anthers linear. Staminal disk flat or cushion-like, the sepals and petals inserted directly round the stamens.

9. ECHINOCARPUS. Sepals 4, imbricate in 2 series. Petals 4, gashed, almost imbricate. Disk thick and broad. Capsule woody, 4-valved, echinate setose or velvety.

Trib. V. ELÆOCARPEÆ. Anthers linear. Petals inserted round the base of a raised torus from the top of which the stamens spring.

10. ELÆOCARPUS. Sepals 4-5. Petals induplicate-valvate, laciniate or rarely entire, Drupes fleshy.

Brownlowia, Roxb.

Conspectus of species.

* Leaves deeply peltate.

Leaves oblong or rotundate; calyx velvety, ...*B. peltata.*

* * Leaves not peltate.

Leaves cordate-oblong; calyx velvety, ...*B elata.*

Leaves lanceolate; calyx scaly, ...*B. lanceolata.*

1. B. PELTATA, Bth. in Linn. Proc. V. Suppl 56.

HAB. Tenasserim (Helf. 624).

Apparently merged by Masters into *B. elata* and possibly rightly so.

2. B. ELATA, Roxb. Corom. Pl. III. t. 265; Bot. Reg. t. 1472. Wall. Pl. As. rar. III. 45; Hf. Ind. Fl. I. 381. (*Humea elata*, Roxb; Fl. Ind. II. 640).

HAB. Chittagong; Tenasserim, Moulmein.

3. B. LANCEOLATA, Bth. in Linn. Proc. V. Suppl. 57; Hf. Ind. Fl. I. 381.

HAB. Rather frequent in the tidal forests and mangrove swamps from Arracan (Akyab) and Rangoon down to Tenasserim (Moulmein). Fl. Febr.—May.

Pentace, Hassk.

1. P. BURMANICA, Kurz in Journ. As. Soc. Beng. 1871. 47; Hf. Ind. Fl. I. 381.

HAB. Frequent in the tropical forests of the eastern and southern slopes of the Pegu Yomah and Martaban down to Upper Tenasserim. Fl. Jan.; Fr. Febr. March.

Berrya, Roxb.

1. B. MOLLIS, Wall. Cat. 1186; Kurz in Journ. As. Soc. Beng. 1873. 62. (*B. Ammonilla, var. mollis*, Mast. in Hf. Ind. Fl. I. 383).

HAB. Not unfrequent in the drier upper mixed and hill Eng forests of Martaban and the Pegu Yomah up to 3000 ft. elevation. Fr. March.

Columbia, Pers.

Conspectus of species.

Leaves cordate-oblong; fruits ¾-1 in. across, ...*C. floribunda.*

Leaves lanceolate; fruits 1½ in. across, ...*C. Merguensis.*

1. C. FLORIBUNDA, Kurz in Journ. As. Soc. Beng. 1873. 63; Hf. Ind. Fl. I. 393. (*Grewia floribunda*, Wall. ap. Voigt (not Voight) Cat. Hort. Calc. 128).

HAB. Martaban, in Toukyeghat E. of Tounghoo; also Ava, on Taong dong. Fr. Nov. Jan.

2. C. MERGUENSIS, Planch. in Hf. Ind. Fl. I. 394.

HAB. Tenasserim, Mergui (Griff.)

Grewia, L.

Subg. 1. ***Microcos.*** Stigma shortly toothed. Flowers forming terminal panicles, involucred while in bud.

* Endocarp of drupes fibrous-woody.

Leaves entire, almost coriaceous, quite glabrous; ovary and torus velvety-tomentose, ...*G. calophylla.*

× × Endocarp of drupes crustaceous or bony.

Leaves thin chartaceous, glabrous or beneath puberulous, not sinuate; ovary and torus glabrous, ...*G. microcos.*

As preceding but flowers and leaves much smaller, the latter sinuate-lobed, ...*G. sinuata.*

Leaves thick chartaceous and rugose, tomentose beneath; ovary and torus villous, ...*G. paniculata.*

Subg. 2. ***Grewiæ veræ.*** Stigmas dilated and fringed, radiating. Flowers in axillary or leaf-opposed cymes or clusters.

O Cymes or clusters axillary.

× Leaves at base 3-nerved, rarely with an additional lateral one.

† Drupes deeply 2-4-lobed from the top, by abortion sometimes 1-lobed.

Cymes and sepals shortly rusty tomentose; leaves on both surfaces very scabrous from minute stellate hairs; drupes deeply 4-lobed, ...*G. scabrida.*

Cymes sprinkled with stiff hairs, glabrescent; sepals greyish or tawny velvety; leaves glabrous, or sprinkled with simple short hairs, rarely puberulous beneath; drupes didymous, ...*G. lævigata.*

† † Drupes entire or only slightly and obtusely lobed at the top.

Leaves beneath and young parts greyish velvety; drupes globular, grey-pubescent, ...*G. excelsa.*

Leaves at base 3- or 4-nerved; cymes rather long peduncled; drupes obsoletely 4-lobed red, sparingly hirsute, ...*G. hirsuta.*

As preceding, but more densely pubescent or tomentose; drupes obsoletely 2-lobed, red sparingly hirsute, ...*G. humilis.*

Leaves at base 3- or 4-nerved, scabrous; flowers in short dense sessile clusters; stamens 16, ...*G. microstemma.*

× × Leaves usually broad, at base 5-7-nerved, the upper ones often only 3-nerved or 3- and 5-nerved ones mixed.

† Peduncles slender, much longer than the petioles.

Leaves obliquely lanceolate, especially while young greyish or whitish tomentose beneath, ...*G. elastica.*

Leaves broadly obovate or almost rotundate, on both sides sprinkled with stellate hairs, or pubescent beneath, often scabrous, ...*G. Asiatica.*

† † Peduncles very short or almost reduced and the flowers appearing clustered.

Leaves very variable in shape, tomentose to pubescent; drupes from the top deeply 4- or only by abortion fewer-lobed, ...*G. abutilifolia.*

Leaves very scabrous and harsh; drupes the size of a cherry, almost globular, ...*G. sclerophylla.*

O O Cymes opposite the leaves, ...*G. oppositifolia.*

1. G. CALOPHYLLA, Kurz in And. Rep. App. B. 3; and in Flora 1872 398; Hf. Ind. Fl. I. 392.

HAB. Not uncommon in the tropical coast-forests of South Andaman. Fl. May, June.

2. G. MICROCOS, L. sp. pl. ed. 12. 602; Wight Ill. t. 33; Hf. Ind. Fl. I. 392. (*G. ulmifolia*, Roxb. Fl. Ind. II. 591; Wight Ic. t. 84).

HAB. Frequent all over Burma from Chittagong and Ava down to Tenasserim, in the mixed forests, especially the lower ones. Fl. Apr.—June.

Like a few other *Grewiæ* perplexingly variable in size and shape, here a well-shaped tree 40 to 50 ft. high, there a meagre shrub of only a few feet in height; the latter form growing chiefly on deep alluvium, in savannahs and similar localities.

3. G. SINUATA, Wall. Cat. 1108; Hf. Ind. Fl. I. 392.

HAB. Frequent in the swamp-forests of the Irrawaddi and Sittang alluvial plains in Pegu and Martaban; also Tenasserim as far down as Mergui. Fl. May.

Possibly only a marsh-form of the preceding.

4. G. SCABRIDA, Wall. Cat. 11,13. p. p.; Kurz in Journ As. Soc. Beng. 1873. 63; Hf. Ind. Fl. I. 398, excl. syn.

HAB. Tenasserim, from Moulmein (Falconer) and Tavoy (Wall.) down to Mergui (Helf.). Fl. Sept.; Fr. Febr.

5. G. LÆVIGATA, Vhl. Symb. I. 34; Hf. Ind. Fl. I. 389. (*G. didyma*, Roxb. Fl. Ind. III. 591).

Var. *α.* GLABRA, leaves glabrous, or tufted-hairy in the nerve-axils beneath.

Var. *β.* PUBESCENS, leaves beneath minutely puberulous or densely downy.

HAB. Var. *β.* not uncommon in the upper mixed forests all over Pegu and adjacent provinces down to Tenasserim; var. *α.* in Arracan. Fl. Sept. Oct.; Fr. March Apr.

6. G. EXCELSA, Vhl. Symb. III. 35; Roxb. Fl. Ind. II. 586?; Hf. Ind. Fl. I. 385. (*G. salvifolia*, Roxb. l. c. 587).

HAB. Chittagong (teste Masters).

I have not seen specimens; the occurrence of such a xeroclimatic form in Chittagong is exceptional.

7. G. HIRSUTA, Vhl. Symb. I. 34; DC. Prod. I. 509; Roxb. Fl. Ind. II. 587; Wight Ic. t. 76; Hf. Ind. Fl. I. 391. (*G. pilosa*, Roxb. Fl. Ind. II. 588).

Var. *α.* GENUINA, leaves green, 3-nerved, more or less sprinkled with short stiff hairs.

Var. *β.* VIMINEA, (*G. viminea*, Wall. Cat. IV), as the preceding, but the leaves longer and narrower, very long acuminate.

Var. *γ.* HELICTERIFOLIA (*G. helicterifolia*, Wall. MS.), leaves acuminate, at base 3- or almost 4-nerved, thinly hirsute or tomentose above, beneath clothed with a whitish velvety tomentum.

HAB. Var. α. and β. frequent all over Burmah in the mixed forests, especially in the upper ones; var. γ. not yet found. Fl. H. and R. S.; Fr. C. S.

8. G. HUMILIS, Wall. ap. Voigt Cat. Hort. Beng. 128; Hf. Ind. Fl. I. 390.

Var. α. WALLICHII, tomentum more villous, leaves acute.

Var. β. RETUSIFOLIA, (*G. retusifolia*, Kurz in Journ. As. Soc. Beng. 1872. 294), tomentum velvety; leaves deeply retuse and broader.

HAB. Var. α. Ava, Segain hills (Wall.); var. β. not unfrequent in savannahs, especially along the borders of swamp forests of the Irrawaddi alluvium in Pegu. Fr. C. S.

The drupes are normally 4-lobed, but by abortion usually 2- rarely 1- or 3-lobed. The species is hardly more than an extreme form of *G. hirsuta*, Vhl.

9. G. MICROSTEMMA, Wall. ap. Voigt Cat. Hort. Calc. 128; Kurz in Journ. As. Soc. Beng. 1873. 63; Hf. Ind. Fl. I. 390.

HAB. Ava; Prome hills (Wall.) Fl. Sept. Oct.

10. G. ELASTICA, Royle Ill. Him. Pl. 104. t. 22; Walp. Rep. I. 361. (*G. asiatica, var. vestita*, Mast. in Hf. Ind. Fl. I. 387.)

HAB. Frequent in the upper mixed forests of the Pegu Yomah and Martaban; also Chittagong. Fl. Nov. Decb.

11. G. ASIATICA, L. Mant. 122; Roxb. Fl. Ind. II. 586; Hf. Ind. Fl. I. 386.

Var. β. NANA, (*G. nana*, Wall. Cat. 1102), stunted and low, possibly the result of jungle fires.

HAB. Only the stunted variety appears to grow in Burma (Griff. 656) probably Ava?

12. G. TILIÆFOLIA, Vhl. Symb. I. 35; Roxb. Fl. Ind. II. 587; Bedd. Fl. Sylv. Madr. t. 108; Hf. Ind. Fl. I. 386.

HAB. Birma (teste Masters).

13. G. ABUTILIFOLIA, Juss. Ann. II. 92; DC. Prod. I. 511; WA. Prod. I. 79? Miq. Fl. Ind. Bat. I/2. 201; Hf. Ind. Fl. I. 390. (*G. aspera*, Roxb. Fl. Ind. II. 591).

Var. α. ASPERA, (*G. aspera*, Roxb. l. c.) leaves all rotundate and often somewhat lobed towards the summit; sepals only 2½ lin. long or a little longer, pubescent from stiff appressed hairs; petals ½ lin. long; bracteoles short, oblong, acute. A low shrub, 2 to 3, often only ½ foot high, the tomentum usually short.

Var. β. VIRIDESCENS, as the preceding, but the leaves of a very thin chartaceous texture and very large, green, acuminate, above hirsute from simple, beneath from stellate, tawny hairs; flowers usually larger; sepals tawny pubescent; petals as in the preceding variety, but the lamina more acute; ripe drupes glabrous. Low shrub, 2-3 ft. high.

Var. γ. *sclerophylloides*, a low shrub, 3-4 ft. high, more or less branched, the younger parts densely rusty-coloured villous; leaves very variable in shape on the same branch, the lower ones usually ovate-oblong, up to nearly one foot long, the upper and uppermost ones gradually smaller and narrower, from ovate to lanceolate, doubly and sometimes bristly serrate, acuminate, scabrous or thinly pubescent above, beneath more or less stellate-pubescent or almost tomentose; bracteoles linear-lanceolate, acuminate, pubescent externally, longer or as long as the flower-buds; petals a line long, the lamina acuminate, pubescent outside; drupes deeply 4-lobed, often remaining sparingly hirsute during ripeness. A laterite form.

HAB. Var. α. Pegu (Col. Eyre); var. β. not unfrequent in the upper mixed forests of the Pegu Yomah; var. γ. frequent in the open, especially the low and Eng forests of Pegu, Prome and Martaban. Fl. May.

A very variable plant of which I entertained some hope of being able to separate var γ. (which is also a common Assam plant) specifically. It resembles in size of flowers *G. sclerophylla*, but the deeply 4-lobed drupes at once separate it.

14. G. SCLEROPHYLLA, Wall. Cat. 1095; Wight Ic. t. 89. (*G. scabrophylla*, Roxb. Fl. Ind. II. 584 [nomen latino-græcum]; Hf. Ind. Fl. I. 387).

HAB. Ava and Chittagong (teste Masters).

Doubtful species.

1. *G. lanceolata*, Roxb. Fl. Ind. II. 586.

HAB. Chittagong (Roxb.)

Possibly the same as *G. viminea*, Wall.

Triumfetta, L.

Conspectus of species.

Sect. 1. *Lappula.* Capsules indehiscent or nearly so, globular, echinate, the cells usually 1-seeded.

Leaves rotundate, not lobed, blunt, beneath greyish-tomentose like the sepals, ... *T. rotundifolia.*

Leaves rotundate, acuminate, often lobed; the sepals stellate-hairy, ... *T. rhomboidea.*

Sect. 2. *Bartramia.* Capsules when ripe separating into 3-4 cocci, densely covered by long bristles, the cells usually 2-seeded.

Leaves slightly hirsute; capsules and bristles glabrous, ... *T. annua.*

Leaves at least beneath densely tomentose or pubescent; capsules tomentose, the bristles more or less pilose, straight or curved, ... *T. pilosa.*

1. T. RHOMBOIDEA, Jacq. Am. 147. t. 90; Mast. Fl. Trop. Afr. I. 257 and Hf. Ind. Fl. I. 395. (*T. angulata*, Lamk. Dict. III. 41; Wight Ic. t. 320; *T. Bartramia*, Roxb. Fl. Ind. II. 463; *T. cana*, Bl. Bydr. 116, non Mast.).

HAB. A common weed not only in cultivated lands but also in all leaf-shedding forests all over Burma and adjacent provinces. Fl. R. and C. S.; Fr. C. S.

2. *T. semitriloba*, L. Mant. 73; Hf. Ind. Fl. I. 396.

HAB. Tenasserim, Tavoy (teste Masters).

3. T. ROTUNDIFOLIA, Lamk. Dict III. 421; Hf. Ind. Fl. I. 395.

HAB. Ava (Wall.)

4. T. ANNUA, L. Mant. 73; Bot. Mag. t. 2296; Hf. Ind. Fl. I. 396

HAB. Not unfrequent in the upper-mixed and dry forests all over Pegu, also frequent in deserted hill-toungyas; Ava. Fr. Nov.—Febr.

5. T. PILOSA, Roth Nov. sp. 223; Hf. Ind. Fl. I. 394.

Var. β. OBLONGA, (*T. oblonga*, Wall. in Don I. Prod. Rep. 227; *T. tomentosa*, Mast. in Hf. Ind. Fl. I. 394, non Boj.; *T. octandra*, Griff. Nat. Dicot. 512?) the bristles of the carpels somewhat shorter and straight or nearly so.

HAB. Var. β. common all over Burma and adjacent provinces, in the mixed forests and deserted toungyas. Fr. Nov. Jan.

Masters, in Fl. trop. Afr. and Fl. Ind., identifies var. β of this species with *T. tomentosa*, Boj. The Mauritian plant, which for a long time was cultivated in H.B.C. but is now apparently lost, has a velvety tomentum and small globular fruits not larger than those of *T. rhomboidea*, while Masters describes them as being as large as a cherry.

Doubtful species.

1. T. CANA, Masters in Hf. Ind. Fl. I. 396, non Bl.

HAB. Chittagong (teste Masters).

Corchorus, L.

Conspectus of species.

§ 1. Capsules globular or nearly so, more or less muricate.

Lower pairs of serratures of leaves produced into five bristles: capsules 10-sulcate, truncate, ...*C. capsularis.*

§ 2. Capsules more or less elongate or linear, cylindrical or angular, but not winged.

* Capsules 1 to 2 in. long or longer. Stamens very numerous.

O Lower pair of serratures of leaves produced into long bristles.

Capsules 2 in. long, 5-celled and 5-ribbed, longitudinally pitted, the partitions within very distinct, ... *C. olitorius.*

O O Leaves without basal bristles, usually small and blunt.

Capsules about 2 in. long, sparingly and minutely tubercled, glabrous, simply beaked, ...*C. 3-locularis.*

As preceding, but capsules only about 1 in. long, thinly pilose, ...*C. urticæfolius.*

Capsules 1-1½ in. long, almost terete, not wrinkled, 3-4-celled, 3-4-toothed at apex, without partitions inside, ...*C. tridens.*

* * Capsules about ½ in. long. Stamens 5 to 10.

Capsules almost terete, tomentose, 3-celled, without partitions inside, ...*C. fasciculare.*

§ 3. Capsules elongate, thick, truncate, 6-angled, the alternate angles winged.

Stamens 15 to 20. Leaves without bristles. Capsules ¾—1 in. long, terminating in 3 simple or 2-cleft spreading points, ...*C. acutangulus.*

1. C. CAPSULARIS, L. sp. pl. 746; Roxb. Fl. Ind. II. 581; Wight Ic. t. 311; Hook. Journ. Bot. II. 92. t. 3, Hf. Ind. Fl. I. 397.

HAB. Cultivated all over Burma, and frequently seen in deserted toungyas, along the borders of forests, around villages, etc. Fl. C. S.; Fr. H. S.

2. C. OLITORIUS, L. sp. pl. 746; Roxb. Fl. Ind. II. 581; Bot. Mag. t. 2810; Griff. Not. Dicot. 512; Hf. Ind. Fl. I. 397. (*C. decemangularis*, Roxb. l. c. 582).

HAB. Ava, Pegu, cultivated and wild in rubbishy places and agrarian lands. Fl. R. S.; Fr. C. S.

3. C. TRILOCULARIS, L. Mant. 77; Roxb. Fl. Ind. II. 582; Hf. Ind. Fl. I. 397.

HAB. Burma (according to Dr. Mason).

4. C. URTICÆFOLIUS, WA. Prod. I. 73; Hf. Ind. Fl. I. 397.

HAB. Ava (Wall.).

5. C. TRIDENS, L. Mant. 566; Hf. Ind. Fl. I. 398. (*C. trilocularis*, Burm. Fl. Ind. t. 37. f. 2).

HAB. Prome District (Wall.).

6. C. FASCICULARIS, Lamk. Dict. II. 104; Roxb. Fl. Ind. II. 582; Hf. Ind. Fl. I. 398.

HAB. Not unfrequent in dried up river-beds in the swamp forests and savannahs between the Lhein and Irrawaddi rivers in Pegu Fr. C. S.

7. C. ACUTANGULUS, Lamk. Dict. II. 104; Wight Ic. t. 739; Hf. Ind. Fl. I. 398. (*C. fuscus*, Roxb. Fl. Ind. II. 582).

HAB. Very frequent not only in rubbishy places, deserted toungyas, etc., but also in the leaf-shedding forests, all over Burma up to 3000 feet elevation. Fl. R. S.; Fr. C. S.

Echinocarpus, Bl.

Conspectus of species.

Leaves entire, tufted-hairy in the nerve-axils beneath; prickles of fruit strong, usually thickened at base, ...*E. Sigun.*

Leaves crenate-serrate or toothed, at least when young puberulous beneath, the prickles longer, all thin and subulate, ...*E. sterculiaceus.*

1. E. SIGUN, Bl. Bydr. 56; Miq. Fl. Ind. Bat. I/2. 109. (*E. murex*, Bth. in Linn. Proc. V. Suppl. 72; Hf. Ind. Fl. I. 399).

HAB. Tenasserim, Thoungyeen, Ta-oo-road (Brandis). Fr. Apr.

Masters states that the prickles of *E. murex* are dilated at the base; the Khasya specimens No. 5. Hb. or. Hf. and Th., however, exhibit not a vestige of dilatation being simply incrassate at base just as those of the Javanese plant. The sígún is a common tree in the hill-forests of western Java and there well-known to Dutch botanists.

2. E. STERCULIACEUS, Bth. in Linn. Proc. V. Suppl. 72; Hf. Ind. Fl. I. 400.

HAB. Not unfrequent in the drier hill-forests of Martaban; Tenasserim, Moulmein District (Falconer); Birma (Griff. 675).

Elæocarpus, L.

Conspectus of species.

Subg. 1. *Monoceras.* Anthers cuspidate or aristate. Flowers usually rather large, the petals silky-hairy, fringed or very rarely entire.

* Petals entire with a few short teeth at apex or simply fringed, not cut or cleft. Petioles continuous, not geniculate-incrassate.

O Inflorescence and sepals outside almost glabrous.

All parts glabrous, ...*E. petiolatus.*

O O Inflorescence and sepals outside silky-pubescent.

Glabrous; petals entire, acuminate; pedicels ⅜-½ in. long, ... *E. Griffithii.*

Glabrous; petals deeply but simply fringed; pedicels 3-4 lin. long, ...*E. Varunua.*

* * Petals 2-3-cleft, the lobes jagged or fringed; anthers glabrous or puberulous.

O Petiole geniculate-thickened at apex.

† Inflorescence with long-persistent leafy bracts.

All parts also sepals and inflorescence glabrous, ...*E. bracteatus.*

† † Bracts of inflorescence small, very deciduous.

× Racemes and sepals glabrous or nearly so, ...*E. simplex.*

× × Racemes and sepals more or less tomentose or pubescent.

Leaves 1-1½ ft. long, cuneate-acuminate at base, acute; anthers shorter than the bristle; drupes puberulous, the putamen slightly compressed, ...*E. grandifolius.*

Leaves ½-1 ft. long, rounded at the narrowed base; leaves glabrous or nearly so; putamen terete, ...*E. rugosus.*

O O Petiole continuous, not geniculate-thickened at apex.

Glabrous. Putamen long recurved-aculeate, ...*E. grandiflorus.*

Putamen lacunose-tubercled; leaves blunt, very thick coriaceous, glabrous, . *E. littoralis.*

Subg. 2. *Elæocarpi veri.* Anthers blunt, or the longer valve sharply produced; flowers small; petals glabrous.

† Putamen even and usually slightly rimose, or obsoletely wrinkled. Calyx and pedicels glabrous.

Leaves glabrous, blistered-speckled and opaque; petioles long, thickened at the summit; anthers bearded, ...*E. floribundus.*

Leaves glabrous, opaque, acuminate; petiole not geniculate-thickened, ...*E. lanceæfolius.*

Leaves glabrous, blunt or rounded at apex; petioles short but slender, not thickened; anthers naked; drupes unknown, ...*E. hygrophilus.*

† † Putamen wrinkled or tubercled. Calyx and pedicels puberulous.

× Petioles not geniculate-thickened at apex.

Leaves and petioles glabrous; style long, exserted; the longer anther-cell acute; drupes globular, ...*E. ganitrus.*

Leaves beneath along the nerves and the short petioles densely puberulous; style short; anther-cells equal, blunt; drupes oblong, ...*E. lacunosus.*

× × Petioles thickened at summit.

Leaves beneath and the rather short petioles densely puberulous, .. *E. Wallichii.*

Leaves and the long petioles glabrous; drupes oblong, ...*E. robustus.*

All parts densely and shortly pubescent; drupe globular, ...*E. stipularis.*

1. E. GRIFFITHII, Kurz in Journ. As. Soc. Beng. 1870. 68; Hf. Ind. Fl. I. 408. (*Monoceras trichanthera*, Griff. Not. Dicot. 518. t. 619. f. 2).

HAB. Tenasserim, Mergui, in shrubberies (Griff.). Fl. Dec. Jan.

2. E. PETIOLATUS, (*Monocera petiolata*, Jack. Mal. Misc. in Hook. Bot. Misc. II. 86; *E. integra*, Wall. Cat. 2668; Hf. Ind. Fl. I. 408; *E. ovalis*, Miq. in Suppl. Fl. Sum. 406).

HAB. Tenasserim (Helf. teste Masters).

3. E. BRACTEATUS, Kurz in Journ. As. Soc. 1871. 48; Hf. Ind. Fl. I. 406).

HAB. Tenasserim, in tropical forests of Thoungyeen (Brandis); Moulmein (Falconer). Fl. March, Apr.

4. *E. simplex*, Kurz MS.

HAB. Tenasserim (Griff. 701).

Evidently nearly allied to *E. aristatus*, Roxb. but differing in the shape of the leaves and the glabrous racemes. The flowers conform to those of the preceding species. Griffith's specimens from E. Bengal (No. 702) differ only by a puberulous inflorescence and may also belong here.

5. E. GRANDIFLORUS, Smith in Rees Cycl. No. 5. (*Monoceras lanceolatum*, Hassk. Cat. Bog. 208; Miq Fl. Ind. Bat. I/2. 212; *Monocera grandiflora*, Hook. Bot. Mag. t. 4680; *E. lanceolatus*, Bl. Bydr. 129).

HAB. Martaban, not rare along the banks of rivers in Toukyeghat District E. of Tounghoo.

6. E. GRANDIFOLIUS, Kurz in Journ. As. Soc. Beng. 1872, 294.

HAB. Frequent in the tropical forests of the eastern slopes of the Pegu Yomah and Martaban down to Tenasserim. Fr. Febr. March.

7. E. RUGOSA, Roxb. Fl. Ind. II. 596; Wall Cat. 2658. A. C.; Hf. Ind. Fl. I. 405. (*Monocera rugosa*, Wight Ill. I. 83 and Ic. t. 61).

HAB. Frequent in the tropical forests, especially along choungs, of the eastern slopes of the Pegu Yomah and Martaban. Fl. March, Apr.

Masters refers Wallich's *E. rugosus* to *E. tuberculatus*, Roxb. without giving his reasons for so doing.

8. E. LITTORALIS. T. and B. MS.

HAB. Tenasserim, Moulmein (Falconer). Fr. Febr.

N. B.—What I have from the Botanical Gardens, Buitenzorg, under

the name of *Monoceras obtusum*, Hassk. belongs to *E rugosus*. The Tenasserim plant (with which Griffith's No. 700 is identical) has very thick and obtuse leaves, and is in my opinion a distinct species. I have therefore retained the MS. name of Teysm. and Binnend. for the plant.

9. E. VARUNUA, Ham. ap. Hf. Ind. Fl. I. 407.

HAB. Chittagong (teste Masters).

Differs from *E. prunifolius*, Wall. solely by the silvery silk-hairy inflorescence and larger flowers.

10. E. FLORIBUNDUS, Bl. Bydr. 120; Miq. Fl. Ind. Bat. I/2. 210; Hf. Ind. Fl. I. 401. (*E. serratus*, Roxb. Fl. Ind. II. 596).

HAB. Frequent in the tropical forests, along choungs, of the Martaban hills E. of Tounghoo down to Tenasserim; also Chittagong. Fl. Apr.

The species is easily recognised in a dried state by its peculiar blistered opaque leaves.

11. E. HYGROPHILUS, Kurz, MS.

HAB. Frequent in the swamp forests of the alluvial plains of Pegu and Martaban; also Upper Tenasserim (Falc.) Fl. Jan. March.

I looked for some time upon this species as a variety of *E. photiniæfolius*, but the habitat as well as the structure of the leaves are inconsistent with such a view. It is nearest to *E. lanceæfolius*, Roxb., but differs by obtuse or rounded leaves and beardless anthers.

12. E. LANCEÆFOLIUS, Roxb. Fl. Ind. II. 598; Hf. Ind. Fl. I. 402.

HAB. Tenasserim (teste Masters.)

13. E. GANITRUS, Roxb. Fl. Ind. II. 592; Hf. Ind. Fl. I. 400. (*Ganitrus sphæricus*, Gærtn. fruct. II. 271. t. 139; Wight Ic. t. 66; *E. cyanocarpus*, Mast. in Hf. Ind. Fl. I. 406).

HAB. Chittagong.

14. E. LACUNOSUS, Wall. Cat. 6858.

HAB. Not unfrequent in the tropical forests and along choungs in the moister upper mixed forests of Pegu and Martaban down to Tenasserim. Fl. May, July; Fr. March, Apr.

15. E. WALLICHII, (*E. longifolius*, Wall. Cat. 6682; Hf. Ind. Fl. I. 409. non Bl.)

HAB. Not unfrequent in the Eng and low forests from Martaban (Toukyeghat) down to Upper Tenasserim; also base of Pegu Yomah; Ava (Wall.)

I have often met with the tree, but always without flowers or fruit. The leaves generally resemble *E. Ganitrus* but are puberulous all over or, in very old ones, only beneath along the nerves, and so are the petioles and branchlets. It appears to be a distinct species.

16. E. ROBUSTUS, Roxb. Fl. Ind. II. 597; Wight Ic. t. 64; Hf. Ind. Fl. I. 402. (*E. Helferi*, Kurz And. Rep. ed. 2. 32. and Mast. in. Hf.

Ind. Fl. I. 402 E. sp. Griff. Not. Dicot. 517. t. 592. f. 2).

HAB. Frequent in the tropical forests of Martaban and Tenasserim; also Andamans; and Chittagong (teste Mast.) Fl. Apr. May; Fr. Aug.

N. B.—E. cuneatus, Wight, is noted by Masters as growing in Chittagong, Birma, and Tenasserim. I do not know the species. Possibly the Burmese localities refer to *E. lacunosus*, Wall.

17. E. STIPULARIS, Bl. Bydr. 121; Miq. Fl. Ind. Bat. I/2 210; Hf. Ind. Fl. I. 404.

HAB. In tropical forests of Martaban and Tenasserim, up to 3000 feet elevation; also Rangoon District (Brandis). Fl. May.

Doubtful species.

1. E. LEPTOSTACHYA, Wall. Cat. 2672; Hf. Ind. Fl. I. 403.

HAB. Tenasserim (Helf. teste Mast.).

Masters states that the species is very like *E. robustus* but that the anthers are bearded, while in *E. robustus* itself he tells us that the anthers are both bearded and beardless.

2. E. LUCIDUS, Mast. in. Hf. Ind. Fl. I. 403, non Roxb.

HAB. Chittagong (Griff. teste Mast.).

Masters identifies his specimens with Roxburgh's plant, which the late Dr. Anderson had already recognised as an *Euphorbiacea* and which is *Cleidion Javanicum*, Bl. I doubt the correctness of the habitat given for the reason that Griffith had never visited Chittagong.

I have not seen *E. oblongus*, Gærtn. from Moulmein.

LINEÆ.

Conspectus of species.

Trib. I. EULINEÆ. Petals twisted. Perfect stamens as many as petals. Capsule opening septicidally. Herbs or small shrubs.

1. REINWARDTIA. Calyx glabrous. Styles 3 or 4. Capsule 3-4-celled.
2. LINUM. Calyx glabrous or pubescent. Styles 5. Capsule 5-celled.

Trib. II. ERYTHROXYLEÆ. Petals usually imbricate, rarely twisted, with a basal scale inside. Perfect stamens twice as many as petals. Fruit a drupe. Shrubs or trees.

3. ERYTHROXYLON. Petals with a double basal scale inside. Pedicels 1-flowered, axillary.

Reinwardtia, Dum.

1. R. INDICA, Dum. Comm. Bot. 1822. 19. (*R. trigyna*, Planch. in Hook. Journ. of Bot. VII. 522; Hf. Ind. Fl. I. 412.; *Linum trigynum*, Roxb. Fl. Ind. II. 1832. 110; Bot. Mag. t. 1100; Sm. Exot. Bot. 31. t. 17; *Linum repens*, Don. Prod. Nep. 1826. 217).

HAB. Martaban, Karen country (Riley); Chittagong.

Erythroxylon, L.

Conspectus of species.

§ 1. ***Erythroxylon.*** Styles free from the base.

Leaves oblong lanceolate, shortly acuminate glaucescent beneath; pedicels about ½ in. long, ... *E. Kunthianum.*

§ 2. ***Sethia.*** Styles united for about ½ of their length.

Leaves obovate or oblong, blunt; pedicels usually 3 lin. long, rarely longer, ...*E. monogynum.*

Leaves broadly obovate or oblong, retuse; pedicels short, ... *E. cuneatum.*

1. E. KUNTHIANUM, Kurz in Journ. As. Soc. Beng. 1872. 294; Hf. Ind. Fl. I. 414. (*Sethia? Kunthiana*, Wall. Cat. 6849, nomen chartaceum).

HAB. Not unfrequent in the drier hill-forests, especially the stunted ones, on the Martaban hills E. of Tounghoo, at 5000 to 7200 ft. elevation; also Tenasserim, top of Thoungyeen hills, (Parish). Fl. March.

2. E. MONOGYNUM, Roxb. Corom. Pl. I. t. 88. and Fl. Ind. II. 449; Hf. Ind. Fl. I. 414. (*E. Indicum*, Bedd. Fl. Sylv. Madr. t. 81; *Sethia Indica*, DC. Prod. I. 576; Wight Ill. t. 48).

HAB. Pegu (accord. Dr. Mason).

3. E. CUNEATUM, (*Urostigma? cuneatum*, Miq. in Hook. Lond. Journ. VI. 585; *E. Burmannicum*, Griff. Not. Dicot. 468. t. 581. f. 3.; Hf. Ind. Fl. I. 414).

HAB. Tenasserim, from Moulmein (Falconer, Wall.) down to Mergui, along the coast of Madamaca (Griff.). Fl. Apr.

MALPIGHIACEÆ.

Conspectus of genera.

*Trib. I. **MALPIGHIEÆ.*** Carpels never winged, free or united into a fleshy or drupaceous 1- to 3-celled fruit. Usually erect shrubs, with usually opposite leaves and connate stipules.

1. MALPIGHIA. Calyx 6-10-glandular. Filaments at base glabrous. Ovary entire, 2-3-celled, styles terminal and free. Drupes containing 3 or fewer crested nuts.

*Trib. II. **HIREÆ.*** Samaras 1-3, obliquely accumbent to a short pyramidal torus, or the carpels united into a winged indehiscent capsule. Woody climber or rarely erect shrubs or trees, the stipules minute or wanting.

* Stamens definite, usually 10, all perfect.

O Style 1, rarely 2.

2. HIPTAGE. Calyx with a single large gland adnate to the pedicel. Carpels 3-winged. Trees or woody climbers.

O O Styles 3. Calyx without glands.

3. ASPIDOPTERYS. Petals not clawed. Stigmas capitellate. Samaras broadly winged all round. Woody climbers.

* * Stamens numerous. Styles 3, consolidated. Calyx minute, without glands.

4. PLAGIOPTERON. Capsules indehiscent, 3-4-winged as in *Hiptage*. Petals reflexed. Woody climbers.

Malpighia, L.

*1. M. COCCIGERA, L. sp. pl. 611. (*M. coccifera*, L. sp. pl. ed. Rchb. II. 371; DC. Prod. I. 578; Walp. Rep. V. 152; Bot. Reg. t. 568. *M. heteranthera*, Wight Ill. 138. t. 49).

HAB. Frequently cultivated, and sometimes domesticated in rubbishy places round villages in Chittagong. Fl. H. and R. S.; Fr. R. S.

Hiptage, Gærtn.

Conspectus of species.

Scandent diffuse shrub, branched almost from the base; leaves larger, more acute and greyish green; bark grey, ...*H. Benghalensis.*

A lofty climber, the stem simple, cable-like, up to 100 ft. long; leaves smaller and broader, often bluntish apiculate, glabrous and glossy, dark-green; bark dark-brown, ...*H. obtusifolia.*

A small tree; flowers often pale pink with the usual yellow basal blotch; capsule not ridged on top, the wings shorter and broader, obliquely truncate; bark dark-brown, ...*H. candicans.*

1. H. BENGHALENSIS, (*Banisteria Benghalensis*, L. sp. pl. 356; *H. Madablota*, Gærtn. Fr. II. 169. t. 116. f. 4; Wight Ill. t. 50; Hf. Ind. Fl. I. 418; *Gærtnera racemosa*, Roxb. Corom. Pl. I. t. 18 and Fl. Ind. II. 368).

HAB. Not unfrequent in the dry and open, especially the Eng, forests of Prome and Martaban; also Tenasserim, Moulmein. Fl. March, Apr; Fr. Apr. May.

2. *H. obtusifolia*, DC. Prod. I. 583. (*Gærtnera obtusifolia*, Roxb. Fl. Ind. II. 369).

HAB. Rather rare in the tropical forests in the deep ravines of the Pegu Yomah. Also Ava, Khakyen hills (J. Anderson) Fl. March.

It is difficult to give good characters for this species, but it is in my opinion certainly distinct.

3. H. CANDICANS, Hf. Ind. Fl. I. 419. (*H. arborea*, Kurz in Pegu Rep. and in Journ. As. Soc. Beng. 1873. 228).

HAB. Frequent in the dry and eng forests of the Prome District and there forming the upper dry forests. Fl. March; Fr. March, Apr.

Aspidopterys, A. Juss.

Conspectus of species.

* Gynobase persistent after the fall of the samaras, conical, acute, exserted, surrounded by 3 smooth acute disk-lobes.

Leaves tomentose beneath, acuminate; ovary hirsute; nucleus of samara with or without a crest, ...*A. setans.*

Leaves tomentose beneath, more or less glabrescent, apiculate; ovary quite glabrous; nucleus of samara with a crest, ...*A. tomentosa.*

* * Gynobase absent after the fall of the samaras or minute and shorter than the disk-lobes, the thick 3-lobed often cup-shaped disk usually wrinkled.

× Samara nearly as broad as long, with a vertical crest between the wings.

All parts, also the ovary, quite glabrous; disk in fruit about 1 lin. broad, ...*A. concava.*

Leaves more or less puberulous along the nerves beneath; disk doubly smaller, hardly wrinkled, ...*A. Helferi.*

× × Samara more than twice as long as broad, not crested.

All parts glabrous; ovary hirsute, ...*A. Roxburghii.*

All parts hirsute; ovary glabrous, ...*A. hirsuta.*

1. A. NUTANS, Hf Ind. Fl. I. 421, non Juss. (*A. lanuginosa*, A. Juss. in Arch. Mus. Nat. Hist. III. 512; *Hiræa nutans*, Roxb. Fl. Ind. II. 447, non Wall.).

HAB. Chittagong (Wall. 1057); Ava, Bhamo (J. Anderson). Fr. Jan.

2. A. TOMENTOSA, A. Juss. in Arch. Mus. Hist. Nat. III. 514; Walp. Rep. V. 299. (*Hiræa tomentosa*, Bl. Bydr. 225).

HAB. Not unfrequent in the tropical forests of Martaban E. of Tounghoo; Ava, Khakyen hills (J. Anderson). Fl. March; Fr. May.

3. A. CONCAVA, A. Juss. in Arch. Mus. Hist. Nat. III. 509; Hf. Ind. Fl. I. 420.

HAB. Tenasserim, from Moulmein to Mergui. Fl. Fr. Apr.

4. A. HELFERIANA, Kurz MS.

HAB. Tenasserim, Moulmein district (Falc., Helf. No. 923.) Phanoë (Wall. No. 1057 not in Cat.) Fl. Febr.

Nearest to *A. concava*, from which it is distinguished by the different leaves and structure of the retuse-narrowed samara-wings, the smaller almost not wrinkled disk-lobes, etc.

5. A. ROXBURGHIANA, A. Juss. in Arch. Hist. Nat. III. 511; Hf. Ind. Fl. I. 420. (*Triopteris Indica*, Willd.; Roxb. Corom. Pl. II. 32. t. 160; *Hiræa Indica*, Roxb. Fl. Ind. II. 247).

HAB. Ava; (Tenasserim, Salween river, teste Hf.).

6. A. HIRSUTA, A. Juss. in Arch. Mus. Hist. Nat. III. 512. t. 17; Hf. Ind. Fl. I. 421. (*Hiræa hirsuta*, Wall. Pl. As. rar. I. 13. t. 13).

HAB. Ava, Taong-dong; Prome hills. (Wall.) Fl. Fr. Aug. Nov.

Doubtful species.

1. A. ROTUNDIFOLIA, A. Juss. in Arch. Mus. Hist. Nat. III. 514; Walp. Rep. V. 299. (*Hiræa rotundifolia*, Roxb. Fl. Ind. II. 448).

HAB. Chittagong (Roxb.) Fl. March, Apr.

Hooker refers this species to his *A. nutans*, but the description agrees better with *A. tomentosa*.

Plagiopteron, Griff.

1. P. SUAVEOLENS, Griff. in Macl. Calc. Journ. IV. 244. t. 13; Hf. Ind. Fl. I. 399.

HAB. Tenasserim, Mergui (Griff. 679).

ZYGOPHYLLEÆ.

Conspectus of genera.

1. TRIBULUS. Stamens 10. Fruits dry, composed of 5-12 cocci usually winged or spiny. Herbs with pinnate leaves.

Tribulus, L.

Conspectus of species.

Flowers 1-2 in. in diameter, the peduncles as long or longer than the leaves, *T. cistoides.*
Flowers ½-¾ in. in diameter, the peduncles shorter than the leaves, ...*T. lanuginosus.*

1. *T. cistoides*, L. sp. pl. 554; Jacq. Hort. Schœnb. I. t. 103; Bot. Reg. t. 791; Hf. Ind. Fl. I. 423.

HAB. Tenasserim, Mergui (teste Edgew. and Hf.).

2. T. LANUGINOSUS, L. sp. pl. 553; Roxb. Fl. Ind. II. 401; Wight Ic. t. 98. (*T. terrestris*, L. sp. pl. 554; Sibth. Fl. Græc. t. 372; Rchb. Fl. Germ. V. t. 161; Hf. Ind. Fl. 423).

HAB. Ava, apparently frequent in the Irrawaddi valley; Prome District. Fl. March, Apr.

N. B.—I am not sure whether *T. terrestris*, L. and *T. lanuginosus* are not really different species.

GERANIACEÆ.

Conspectus of genera.

Trib. I. GERANIEÆ. Flowers regular or nearly so. Sepals imbricate. Glands alternating with the petals. Fertile stamens as many or 2 or 3 times as many as petals. Capsules dry, the valves elastically rolled upwards, or rarely indehiscent.

1. GERANIUM. Perfect stamens 10, or rarely fewer. Ovary-cells 2-ovuled. Capsule dehiscent, beaked.

Trib. II. OXALIDEÆ. Flowers regular. Sepals imbricate. Glands none. Stigmas capitate. Ovary-cells with 2 or more ovules.

* Capsule dry or nearly so, dehiscent. Herbs.

2. OXALIS. Stamens 10. Capsule dehiscing loculicidally, the valves cohering with the axis. Leaves usually digitately compound.

3. BIOPHYTUM. Stamens 10. Capsule dehiscing loculicidally, the valves usually separating from the axis to the base. Leaves pinnate.

* * Berry fleshy, indehiscent. Shrubs or trees.

4. AVERRHOA. Stamens 10, of which 5 often reduced to staminods. Styles distinct. Ovary-cells many-ovuled. Seeds arillate or without arillus. Trees with pinnate leaves.

Trib. III. BALSAMINEÆ. Flowers regular, Sepals usually coloured, the posticous spurred Anthers almost connate.

5. IMPATIENS. The lateral petals connate in pairs. Capsule elastically dehiscent.
6. HYDROCERA. All petals free. Drupes sappy, indehiscent.

Oxalis, L.

1. O. CORNICULATA, L. sp. pl. 624; Roxb. Fl. Ind. II. 457; Wight Ic. t. 18; Jacq. Oxal. t. 5; Fl. Dan. V. t. 873 and X. t. 1753; Engl. Bot. XXIV. t. 1726; Sibth. Fl. Græc. t. 451; Sturm. Germ. Fl. I. t. 1; Rchb. Fl. Germ. V. t. 199; Hf. Ind. Fl. I. 436. (*O. pusilla*, Salisb. in Linn. Trans. II. 243; Roxb. Fl. Ind. II. 457).

HAB. Frequent in rubbishy places, toungyas, garden-lands, along roadsides, etc., all over Burmah up to 3500 ft. elevation Fl. Fr. ∞.

Biophytum, DC.

Conspectus of species.

Leaflets nearly straight, in 10-14 pairs; flowers larger; capsule usually much shorter than the calyx; seeds obliquely transverse-furrowed, ...*B. sensitivum.*
Leaflets very unequal at base, in 12-25 pairs; peduncles with a clubbed mass of bracts at apex, ...*B. adiantoides.*
Leaflets equal, in 10-20 pairs; flowers smaller; capsule almost as long as or a little longer than the sepals, small; slender herb, ...*B. Reinwardtii.*

1. B. SENSITIVUM, DC. Prod. I. 690; Wight Ill. t. 62. f. 9; Hf. Ind. Fl. 436. (*Oxalis sensitiva*, L. sp. pl. 622; Roxb. Fl. Ind. II. 457; Bot. Reg. XXXI. t. 68; Jacq. Oxal. t. 78; *B. Candolleanum*, Wight Ill. t. 62).

HAB. Frequent in rubbishy places, on brick-laid paths, fields and toungyas, etc., all over Burma. Fl. May, June; Fr. R. S.

2. B. ADIANTOIDES, Wight ap. Hf. Ind. Fl. I. 437.

HAB. Tenasserim, Mergui (Griff.).

3. B. REINWARDTII, Walp. Rep. I. 476; Hf. Ind. Fl. I. 437.

HAB. Not unfrequent on poor and rocky soil in shrubberies and in the dry and open, especially the Eng, forests all over Burma from Chittagong and Ava down to Tenasserim. Fl. Apr. May.

Averrhoa, L.

Conspectus of species.

Fruits sharply angled; seed arillate, ...*A. Carambola.*
Fruits bluntish angular; seeds without arillus, ...*A. Bilimbi.*

*1. A. CARAMBOLA, L. sp. pl. 613; Roxb. Fl. Ind. II. 450; Griff. Not. Dicot. 455. t. 540. f. 4; Bedd. Fl. Sylv. Madr. t. 39; Hf. Ind. Fl. I. 439.

HAB. Much cultivated in gardens all over the country. Fl. H. S. and R. S.; Fr. C. S.

*2. A. BILIMBI, L. sp. pl. 613; Roxb. Fl. Ind. II. 451; Bedd. Fl. Sylv. t. 117; Hf. Ind. Fl. I. 439.

Hab. Rarely cultivated in Pegu and Tenasserim. Fl. H. S.; Fr. R. S.

The differences between *A. Carambola* and *A. Bilimbi* appear to me to be of generic value.

Impatiens, L.

Conspectus of species.

* Leaves all opposite or occasionally ternately-whorled.

Leaves almost sessile; flowers rather large, wings obtuse, the spur long and slender, inflexed, ... *J. Chinensis.*

Exactly as the preceding, but the spur short and inflexed, ...*J. reticulata.*

Leaves on long petioles; flowers rather small, the wings acuminate, the spur short, incurved,...*J. circæoides.*

* * Leaves all alternate.

O Flowers shortly racemose, umbellate or corymbose at the ends of the long peduncles.

Leaves petioled; flowers small with a long straight or curved spur, ..*J. Tavoyana.*

O O Peduncles 1- or rarely 2- or 3-flowered, shorter than the leaves.

× Spur usually much shorter than the corolla.

† Flowers 1-2 in. long.

Stem succulent, the thickness of a goose-quill; leaves narrow, pubescent or glabrescent shortly petioled. (Spur often very long and slender), ...*J. Balsamina.*

Stem the thickness of the finger, short; leaves elliptic or ovate, glabrous, long-petioled, ...*J. Parishii.*

† † Flowers small.

Glabrous, slender; leaves long-petioled, narrow, ... *J. capillipes.*

× × Spur longer than the corolla.

Very slender, glabrous; capsule puberulous; flowers rather large, ...*J. violæflora.*

1. J. Chinensis, L. sp. pl. 1328; Hf. and Th. in Linn. Proc. IV. 119; Hf. Ind. Fl. I. 444. (*J. fasciculata*, Lamk. Enc. Méth. I. 359; Wight Ic. t. 748; Hook. Bot. Mag. t. 4631; *J. heterophylla*, Wall. in Roxb. Fl. Ind. ed. Car. II. 458; *I. setacea*, Coleb. in Hook. Exot. Fl. t. 137).

Hab. Birma (Wall.) Tenasserim (Helf.)

2. J. reticulata, Wall. Pl. As. rar. I. 19. t. 19; Hf. Ind. Fl. I. 448.

Hab. Common in the open especially the low forests and in cultivated lands all over Burma from Ava and Martaban down to Tenasserim. Fl. Nov. Decb.

Hardly more than a form of the preceding. *J. tomentosa*, Heyne, is stated by Hf. and Thoms. in Linn. Proc. to grow in Pegu, but the habitat is omitted in Hf. Fl. Ind. It seems to be the above species, at any rate the Wallichian specimens cited belong here.

3. *J. circæoides*, Wall. ap. Hf. and Th. in Linn. Proc. IV. 130; Hf. Ind. Fl. I. 453.

HAB. Rare in shady places in the moister upper mixed forests of the southern parts of the Pegu Yomah; Tenasserim, Tavoy (Wall.) Fl. Jan.

4. J. TAVOYANA, Bth. ap. Hf. and Th. in Linn. Proc. IV. 146.

HAB. Tenasserim, Moulmein District (Zwakabin; Thoungyeen, etc.,) down to Tavoy. Fl. Octob.

*5. J. BALSAMINA, L. sp. pl. 1328; Roxb. Fl. Ind. I. 651; Hf. and Th. in Linn. Proc. IV. 131; Hf. Ind. Fl. I. 453. (*J. Malayensis*, Griff Not. Dicot. 457. t. 576. f. 2?).

Var. α. VULGARIS, Hf. and Th. l. c.

Var. β. COCCINEA, Hf. and Th. l. c. (*J. coccinea*, Sims. Bot. Mag. t. 1256).

HAB. Much cultivated by all natives and often as wild in toungyas and in rubbishy places around villages. Fl. H. S.

6. J. PARISHII, Hf. Ind. Fl. I. 456.

HAB. Tenasserim, on limestone rocks near Moulmein (Parish).

7. J. CAPILLIPES, Hf. and Th. in Linn. Proc. IV. 135; Hf. Ind. Fl. I. 456.

HAB. Tenasserim, Moulmein District on limestone rocks.

8. J. VIOLÆFLORA, Hf. Ind. Fl. I. 457.

HAB. Tenasserim, Moulmein (Lobb.)

Hydrocera, Bl.

1. H. TRIFLORA, WA. Prod. I. 140; Miq. Fl. Ind. Bat. I/2. 132. (*Impatiens natans*, Willd. sp. pl. I. 1175; Roxb. Fl. Ind. I. 652).

HAB. Not unfrequent along borders of ditches, watercourses and rice-fields of the Pegu plains. Fl. R. S.

On the Asiatic Species of Molossi.

By G. E. Dobson, B. A., M. B., F. L. S.

(Read May 7th, 1873.)

The *Molossi* are found in all the warmer regions of the earth, but apparently exist in greatest abundance in the tropical and sub-tropical parts of America. They have been divided into several genera of which two only have hitherto been discovered in Asia; of these *Nyctinomus* is alone represented in the Peninsula of India; the other genus *Chiromeles*, containing a single species *C. torquatus*, inhabits the Malay Peninsula, Java, Sumatra, Borneo, and probably other islands of the Malay Archipelago.

Although *Nyctinomus* has a distribution equalled only by *Vespertilio*, extending through the warmer parts of the five great continents, a single species only, *Nyctinomus plicatus*, has been known to exist in the Indian Peninsula.

Another species of *Nyctinomus* has been reported from China by Mr. Swinhoe, most probably *N. Cestonii*, Savi, also from Southern Europe.

The total number of Asiatic species of *Molossi* known previous to 1873 was therefore three, and to these I added in January 1873 a new and most remarkable species, *N. Johorensis*, which Mr. Wood-Mason's private collector* obtained at Johore in the Malay Peninsula, and in this paper I shall describe another new species from India (preserved in the collection in the Indian Museum) which had been confounded with *N. plicatus*.

Genus Nyctinomus, Geoff. *Ears connivent.*

Dentition:—in. $\frac{2}{4}$; c. $\frac{1-1}{1-1}$; p. m. $\frac{2-2}{2-2}$, m. $\frac{3-3}{3-3}$.

a. Ears close together in front, their inner margins having a common point of origin on the forehead; tragus expanded and rounded off above. (Subgenus, *Dinops*).

Nyctinomus Cestonii.

Dinops Cestonii, Savi, Bull. de Sc. Nat., VIII, p. 286.
Dysopes Cestonii, Wagner, Suppl. Screber Säugeth., V, p. 702.
Nyctinomus insignis, Blyth, Cat. Mamm. Mus. Asiat. Soc. Beng.
? *Dysopes* (*Molossus*) *Rüppelii*, Swinhoe, Proc. Zool. Soc. Lond., 1870, p. 619.

A specimen in the Indian Museum labelled by Blyth "*Nyctinomus insignis*, Blyth" sent by Mr. Swinhoe from Amoy, undoubtedly belongs to this species. It is an adult male agreeing in every respect with specimens from Southern Europe, having also the peculiar throat pore concealed by the long hair of the neck. I have no doubt that the specimen obtained also at

* I have since ascertained that the specimen alluded to by the author was captured by my valued correspondent Mr. James Meldrum of Johore. J. W-M. [Editor].

Amoy by Mr. Swinhoe and referred to by him under the name of *Dysopes Rüppelii* belongs to this species also.

This adds another species to the large number of *Chiroptera* known to be common to Europe and Asia.

NYCTINOMUS TRAGATUS, n. sp.

The shape of the tragus is similar to that of *N. Cestonii*, and has the same relative size; ears like those of *N. plicatus* but not connected by a band in front; wing-membrane from the ankles; calcaneum distinct, terminating in a lobe; free portion of the tail shorter than in *N. plicatus*.

This species, though so very well distinguished from *N. plicatus* by the above-mentioned characters, resembles that species very closely in general aspect, and the measurements of the different parts correspond so closely that on a superficial examination it may be confounded with it.

I found, in a bottle in the Indian Museum which had been labelled *N. plicatus* by Blyth, two specimens, of which one only was referable to that species, the other presented the characters enumerated above and so has formed the type for my new species. The Indian Museum has since received other specimens of *N. tragatus* from Rajanpur on the north-western frontier of India, and from Jashpur near Chutia Nagpur.

b. Ears conjoined at the base of their inner margins; tragus very small, quadrate. (Subgenus, *Dysopes*).

NYCTINOMUS PLICATUS.

Vespertilio plicatus, Buchanan, Trans. Linn. Soc., 1800, Vol. V, p. 261.
Nyctinomus Bengalensis, Geoff., Desc. de l'Egypte, II, p. 130.
Nyctinomus tenuis, Horsf., Zool. Researches in Java.
Mops Indicus, F. Cuvier, Dents des Mammif., p. 49.
Dysopes plicatus, Temm., Monog. de Mammal., Vol. 1, p. 223.

I have examined Buchanan's type of this species from General Hardwicke's collection in the British Museum, also specimens of *N. tenuis*, Horsfd. from Java. The only perceptible difference consists in the attachment of the wing-membrane. In *N. plicatus* although a strong raphé passes from the ankle along the tibia to the margin of the wing-membrane yet the latter can only be said to commence from a point nearly midway between the ankle and the knee joints, while in *N. tenuis* the wing has its origin from the ankle joint or very close to it. It would be necessary before separating the Indian and Javanese forms into distinct species to examine a large series of specimens as it is probable that intermediate examples exist.

To this section, distinguished by the very small tragus, and by the connection of the ears in front by a low band, belongs also *N. Ægyptiacus* from Africa.

c. Ears connected in front by a deep band produced upwards, and posteriorly by a second band enclosing a hollow naked space between, on the crown of the head; tragus small quadrate. (Subgenus, *Chærephon**).

NYCTINOMUS JOHORENSIS.

Nyctinomus Johorensis, Dobson, Proc. As. Soc. Beng., January 1873.

I have nothing to add to my description of this very interesting species. The type specimen preserved in the Indian Museum, an adult male, is the only representative of the species. It would be very desirable to obtain other specimens, especially females, as the peculiar cavity on the head between the ears may be a secondary sexual character analogous to the frontal sac of some species of *Phyllorhina*.

Genus CHIROMELES, Horsf. *Ears separate, distinct.*

Dentition:—in. $\frac{2}{2}$; c. $\frac{1—1}{1—1}$; p. m. $\frac{1—1}{2—2}$; m. $\frac{3—3}{3—3}$.

CHIROMELES TORQUATUS.

Chiromeles torquatus, Horsfd., Zool. Researches in Java.

Chiromeles torquatus et caudatus, Temm., Monog. de Mammal., I, p. 218 and II, p. 348.

The upper incisors are stout and placed close together; the upper premolar is large and tricuspidate; the 1st lower premolar is minute and wedged in the space between the canine and second premolar, which are close together; the last upper molar is less than half the size of the second molar.

* Χαιρεφῶν, Aristophanes, *Aves*, 1296, 1564.

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Part II.—PHYSICAL SCIENCE, &c.

No. III.—1874.

Descriptions of nine species of Alycæinæ from Assam and the Naga Hills.

—*By Major* H. H. Godwin-Austen, *F. R. G. S., F. Z. S., &c., Deputy Superintendent Topographical Survey of India.*

(With Plate III).

(Read August 6th, 1874).

Another season of research in the N. E. frontier has added largely to its terrestrial molluscan fauna, and I was particularly fortunate among the smaller forms of the Cyclostomacea. The *Alycæi* particularly seem to be inexhaustible; the different species are very local but very persistent in character over comparatively small areas, and as they are generally abundant where they occur, the idea that they are accidental varieties is not supported. Very few have a wide vertical distribution and several common forms of the Khási Hills, at a distance of 120 miles east, in the Naga country, are absent or become very rare indeed. The whole section is a most interesting one and illustrates admirably the many changes that nature will ring on any particular form of life, when confined to particular habitats suited for their development and again subjected to all the slow alternations in climate, soil, &c. that time produces.

I give at the end of the paper a few additional notes as to the range of some species of the group previously described and again met with. Several species of *Alycæi* when taken in a fresh state are found covered with a coating of earthy matter rendering them very indistinct and difficult to find, especially as they are to be generally found below the surface and under the dead leaves and decaying bark and sticks that cover the ground so thickly in old

forest. Dead shells may be sometimes seen in hundreds in the clearings after the cut jungle has been fired, when all the surface vegetable mould is burnt and the ground deeply heated; in this way many local forms of landshells are destroyed off large areas as the country becomes cleared, and many of the more local species no doubt have thus died out.

ALYCÆUS INFLATUS, n. sp., Plate III, Fig. 1.

Shell depressedly turbinate, solid, pale ochreous horny, moderately umbilicated, smooth, finely sculptured on the swollen portion of the last whorl adjacent to the sutural tube. Spire conoid, apex blunt; suture impressed. Whorls 4½, the last very much swollen for the size of the shell. Constriction smooth, very short. Sutural tube moderate. Aperture oblique, circular; peristome double, solid, united, and reflected. Operculum concave, black, its position far forward at the very edge of the aperture.

Dimensions, major diam. 0·28″—0·16,″ minor diam. 019″—0·13,″ alt. 0·15 —0·11,″ diam. ap. 0·07.″

Habitat.—I first noticed this shell in the collection of Mr. F. Stoliczka, who kindly allowed me to take it for figuring; it had been found in Assam, but its exact locality was unknown. In the winter of 1872-73 I was fortunate to find it myself in the Naga Hills under Japvo Peak and again at Yémi, Phúnggum, and Gaziphimi at the head of the Lanier River on the main water-shed.

This shell in many respects assimilates to *A. conicus*, mihi, but is more openly umbilicated; in another direction it has the character of the sub-genus *Dioryx* viz. in form of mouth, the short constriction, and position of operculum close to the edge of the aperture.

ALYCÆUS STRIGATUS, n. sp., Plate III, Fig. 2.

Shell pale corneous or amber, finely and evenly costulated throughout. Spire depressed, apex blunt and darker coloured. Suture moderate. Whorls 3½, the last very little swollen, slightly constricted, with a single low ridge close behind the aperture, the constriction smooth and very finely striated. Sutural tube very short. Aperture slightly oblique, circular; peristome single, simple, continuous, moderately thickened. Operculum..... ?

Habitat.—Assam in collection Ferd. Stoliczka.

Major diam. 0·15,″ minor diam. 0·11,″ alt. 0·08,″ diam. ap. 0·05,″.

This is another species of the short-sutural-tubed section of *Alycæus*, of which *A. Khasiacus* (vide Pl. III, Fig. 4, J. A. S. Bengal, Vol. XL, Pt. II, 1871) is a good type. The general and distinct costulation from constriction to apex, particularly the form of constriction and mouth, mark it as a good species. It is more openly umbilicated than *A. Khasiacus*.

I have an *Alycæus* from Darjeeling, found by Mr. F. Stoliczka, but as I possess but a a single much worn specimen, I hesitate to describe it more fully: it is very similar to *A. Theobaldi*, Bs. from the Khási Hills, but is smaller with a more expanded aperture; peristome less thickened, and the sculpture appears to have been very fine; I name it *A. lenticulus*, and trust some day to get other specimens. Dimensions, major diam. 0·14," minor diam. 0 11," alt. 0·08".

ALYCÆUS STOLICZKII, n. sp., Pl. III. Fig. 3.

Shell globosely turbinate, thick, pale horny, finely and closely ribbed from the swell of the first whorl as far back as the end of the sutural tube, thence to the apex distantly and finely costulated; narrowly umbilicated, spire conoid; apex blunt; suture well impressed. Whorls 4½, rounded, the last swollen, then sharply constricted close to the origin of the sutural tube, again swelling and expanding to the mouth. Constriction smooth with a few distant lines of costulation. The sutural tube peculiarly long. Aperture oblique, circular; peristome double, outer lip small, the inner much produced and expanded into 2 broad shallow channels on the inside of the outer margin separated by a V-shaped thickening of the same (see Fig. 3ᵇ). Operculum black, concave, of the usual multi-spiral form.

Major diam. 0·31"—0·28," minor diam. 0·24"—0·20," alt. 0.17"—0·15," diam. ap. 0·12," sutural tube 0·15."

Habitat.—Two specimens were obtained for me by Mr. Belletty on Angaoluo Peak, Nágá Hills at 7,000 feet, during field season of 1872-73. I found it again further to the east at Kezakenomih, and at the head of the Lanier River at about 5,000 feet where the specimens were much larger. It comes near to the forms of *A. Ingrami*, W. Blf. var. (Pl. IV and V, J. A. S. Bengal, Vol. XL, Pt. II, 1871) from the same range of mountains, but its tumid shape, and particularly the very produced aperture, render it a very distinct and well marked species. I have named it after that very accomplished conchologist F. Stoliczka* of the Geological Survey of India.

ALYCÆUS GLOBULUS, n. sp., Pl. III. Fig. 4.

Shell moderately umbilicated, globosely turbinate, white, finely costulated on the swell of the first whorl, becoming gradually smooth thence to the apex. Spire conoid, apex flat and rounded. Whorls 4½, flat, the last mo-

* Since this paper was written, the sad news has reached us that this highly gifted naturalist—to whom all readers of this Journal and I personally owe so deep a debt of gratitude, and who to many of us was a dear and cherished friend—had succumbed to the exposure when in Yarkund and on his return journey to Leh. It may be truly said of Stoliczka that he gave his life to the very last, and died nobly in the pursuit of Science.

derately swollen, then sharply constricted and again enlarged by a ridge, from which emanate four minor longitudinal ridges on the expanded portion of the peristome. Constriction narrow, close to sutural tube, this is moderate in length and about equal to the distance of its base to lip. Aperture much expanded, oblique, round, angulate above, waved on outer margin and channelled within; the outer lip of peristome thin, slightly recurved on the inner lower margin. Operculum black, multi-spirial, concave.

Major diam. 0·20," minor diam. 0·16," alt. 0·13,"

Habitat.—Phunggum, a Naga village at head of the Lanier valley, at 5,000 feet, where it is abundant.

It is near the *crispatus* form described in my last paper. Its larger globose form, long sutural tube, and more open umbilicus, mark it as distinct.

ALYCÆUS BICRENATUS, n. sp., Pl. III, Fig. 5.

Shell moderately umbilicated, sub-turbinate, pale corneous or nearly white, fine close ribbing on swell of last whorl, extending to behind the termination of the sutural tube and thence to apex very finely and evenly costulated. Spire depressedly conoid, suture impressed, apex blunt. Whorls 4, the last moderately swollen, constriction rather wide, followed by a single well defined high ridge close behind the expanded portion of the aperture where it is defined by a sharp narrow costulate rib. The expanded portion anterior to this is longitudinally waved on surface, produced by two deep triangular grooves situated well within the aperture and on outer margin. Sutural tube short. Aperture oblique; peristome round, slightly angular above. Operculum, pale horny, concave.

Major diam. 0·14," minor diam. 0·10," alt. 0·09," sutural tube 0·42."

Habitat.—Kopamedza Peak Naga Hill, 8—9,000 feet, in forest.

This shell belongs to the same group as the last and is very close to *A. crenatus*, mihi (vide plate III, fig. 5, J. A. S. B., Pt. II, 1871), but the longer sutural tube and the strongly crenated peristome of *crenatus* mark the distinction.

ALYCÆUS SERRATUS, n. sp., Pl. III, Fig. 6.

Shell very closely umbilicated, turbinate, rather thin, pale corneous or dark brown, finely costulated on tumid portion of last whorl, rest of shell smooth with shining surface, suture moderately impressed. Spire conoid, apex pointed. Whorls 4, rounded, the last very slightly tumid, constricted and enlarged into a low recurved ridge. Sutural tube moderate. Aperture sub-vertical, circular, very finely notched on lower and outer margin; peristome double, thick, the outer reflected on the inner margin. Operculum thin, pale horny, flat in front.

Major diam. 0·10," minor diam. 0·09," alt. 0·09," sutural tube 0·75."

Habitat.—Laisen Trigl. station, Munipur Hills; rare, some eight specimens only having been found.

In the thickened rounded form of the peristome this species assimilates to *A. conicus*, but the minute notches on the inner margin are peculiar and unlike what is seen in any form I am acquainted with. It seems intermediate between the above and *A. diagonius*.

ALYCÆUS MULTIRUGOSUS, n. sp., Pl. III, Fig. 7.

Shell depressedly sub-turbinate, rather openly umbilicated, translucent, pale corneous, smooth glistening surface, very minute ribbing near sutural tube. Spire flatly conoid; whorls 4, flat, the last very little swollen, constricted and enlarged again towards the aperture into a zigzag-shaped ridge or what might be described as three parallel and connected ridges. Sutural tube short. Aperture oblique, circular; peristome double, both continuous and the outer slightly reflected. Operculum..... ?

Major diam. 0·12," minor diam. 0·08," alt. 0·08," sutural tube 0.037."

Habitat.—Hills at head of the Lanier River, Naga Hills, about 5—6,000 feet, rare.

A close ally of *A. Khasiacus*, mihi, but a much smaller shell; the many ridged area near constriction, however, is a wide departure from that form. A large var. of *A. Khasiacus* occurred at Gaziphima and, as an instance of local variability in this genus, a few of the specimens have a slight tendency to a fimbriated peristome as in *A. crenatus*, mihi.

ALYCÆUS (DIORYX) GRAPHICUS, W. Blf., var. MINOR, Pl. III, Fig. 8.

This shell is much smaller than *graphicus* from the Khasi Hills, &c., and is longer in spire with close costulation throughout.

The differences though persistent in Naga Hill specimens are not sufficient to make the form distinct.

Major diam. 0·10," alt. 0·12."

ALYCÆUS BURTII, n. sp., Plate III, Fig. 9.

Shell turbinate, openly umbilicated, thick, pale ochreous; shallow but well marked ribbing on swell of last whorl and finely costulated on the apex. Spire conoid, apex sharp, suture well impressed. Whorls 5, the last moderately swollen, constriction very slight, short, and smooth up to the peristome, sutural tube moderate, rather large at base. Aperture oblique, laterally oval, angular on inner upper margin, with 4 well marked notches on the outer margin; peristome thickened, double, well reflected, inner lip continuous.

Major diam. 0·22," minor diam. 0·19," alt. 0·15."

Habitat.—Foot of the Bhutan Himalaya at the debouchement of the Barowli River, Assam; collected by Mr. J. Burt, to whom my thanks are due for this and some other interesting shells.

It is close to *A. polygonoma*, but the form of constriction is slightly different, the peristome is well crenulated, and the sculpture stronger. At Kamakia hill near Gowhatty, I obtained specimens of an *Alycæus* still nearer in form to *polygonoma*, only that the sutural tube is but about half the length, ending abruptly, while in *polygonoma* it is long and thread-like. I shall describe it in my next paper.

A. crenatus was found as far east as Shiroifurar, also at Kezakenomih and Yémai.

A. Ingrami, var. is the commonest form in the Naga Hills and has a great range in altitude, being found at Dimapur in the Dunsiri valley under 300 feet and as high as 7,000 feet at Khúnho Peak on the Burrail range, also at Laisen Hill and Sikhámi, and on the east side of the Munipur valley on the slopes of Nongmaiching and Múngching.

A. Nagaensis I have from Kezakenomih, Kopamedza, Prowi, Laisen, and Nongmaiching.

A. Khasiacus occurred as far east as Kopamedza Peak, where it was associated with the nearly allied form above described, *A. multirugosus*.

A. urnula, Bens. is a very abundant shell all along the Burrail range, it retains the type form more persistently than any species of the genus known to me. Very fine large specimens were collected at Kezakenomih, Naga Hills; dimensions, alt. 0·20," diam. 0·20".

A. diagonius and *A. crispatus*, I found again in the Dunsiri valley, Dimapur, and lower spurs of the eastern Burrail.

A. prosectus, Bens., so common in the Khasi Hills, is very rare in the eastern Naga Hills and I procured 2 or 3 specimens only; these shew a transition, for they are not quite identical with the type form from Teria Ghat.

Explanation of Plate III.

Fig. 1, 1*a*, 1*b*, 1*c*, 1*d*, *Alycæus inflatus*.
Fig. 2, 2*a*, 2*b*, „ *strigatus*.
Fig. 3, 3*a*, 3*b*, „ *Stoliczkii*.
Fig. 4, 4*a*, 4*b*, „ *globulus*.
Fig. 5, 5*a*, 5*b*, „ *bicrenatus*.
Fig. 6, 6*a*, 6*b*, „ *serratus*.
Fig. 7, 7*a*, „ *multirugosus*.
Fig. 8, 8*a*, „ (*Dioryx*) *graphicus*, *var. minor*.
Fig. 9, 9*a*, „ *Burtii*.

Fourth list of birds principally from the Naga Hills and Munipur, including others from the Khasi, Garo, and Tipperah Hills.—

By Major H. H. Godwin-Austen, *F. R. G. S., F. Z. S., &c., Deputy Superintendent, Topographical Survey of India.*

(With Plates IV—X).

(Read May 6th, 1874).

In adverting to the hope expressed in my former papers, that the lists of birds from the N. E. frontier might be added to by members of the Survey Party ; I have to thank several members of it for the aid they afforded, and especially are my thanks due to Mr. Wm. Robert, who was working during the field season of 1872-73 in the Garo Hills.

I must remind all connected with these survey operations that as they penetrate to the eastward, no finer field for ornithological research can be now found in India, as is shewn by the many beautiful new forms, that I was fortunate enough to obtain during my visit to the Naga Hills and Munipur in the winter of 1872-73. Ten of these have been described by me in the P. Z. S., one in the ' Annals and Magazine of Natural History,' and Mr. Gould has described one in the ' Birds of Asia.' I have introduced these descriptions again to render the paper of more use to ornithologists in India, into whose hands it is likely to fall.

This fourth list contains 112 species, which with 380 before recorded brings the number collected up to 492.

I have adhered to my former resolve not to bring into the list any bird which has not been actually bagged, the record of species seen on the wing, especially of the smaller duller birds, not being of any real value. Thus some very common forms are still absent. A few corrections have to be made in my former lists and some further detail is necessary regarding two or three birds that were brought into List No. 3, which was prepared somewhat hastily. I supply figures of seven of the new species, which will go some way, I trust, towards counterbalancing the imperfections which the paper may contain.

In the determination of the species, I have received very cordial assistance from Lord Walden, whose fine collection from British India and Malayana aided most materially. In expressing thanks for assistance afforded, I must also include the name of Mr. R. B. Sharpe, in charge of the ornithological branch at the British Museum, who was always ready to place his time and the collection at my disposal.

20.* HIERAX EUTOLMOS, Hodg.

Garo Hills. Appears never to be a common bird anywhere. I received two skins from the above hills, where it was obtained by Mr. Wm. Robert. I never saw it on the east of the Khasi Hills, where it appears to be replaced by *H. melanoleucos*, Blyth. Their habits are Shrike-like; they sit on isolated dead trees in the forest clearings and sally off from time to time to seize some insect.

37. LIMNAETUS KIENIERII, De Sparre.

This rare and handsome Hawk Eagle was obtained for me by Mr. W. Robert of the Topographical Survey in the Naga Hills during the cold season.

Length of wing 15·75," tail 10," tarsus 3·95," bill from gape 1·5." There is a fine specimen set up in the British Museum. Rare everywhere it appears to have a great range.

56*a*. MILVUS MELANOTIS, Tem. and Schl.

I obtained this species in February in the Munipur valley; but it was not numerous.

80. GLAUCIDIUM BRODIÆI, Burton.

Naga Hills. This bird is not common in these hills; its monotonous call at night is not so often heard as about Mussoorie in the N. W. Provinces.

82*a*. HIRUNDO CAHIRICA, Sav. = HIRUNDO TYTLERI, Jerdon.

My specimens from Munipur are evidently identical with Jerdon's bird observed at Dacca in June, it was the only form in Munipur in February and March, and very numerous at Imphal the capital; it was then commencing to breed. Darjeeling specimens in the collection of Lord Walden are still more like *Cahirica* from Egypt.

†W. 4·6," T. 3·4, t". 0.4," Bf. 0·3."

Hirundo gutturalis, Scop. is the form I obtained in the Naga Hills at about 5000 feet in January and February, and recorded from the Khasi Hills as *H. rustica* in my first list. Specimen from Naga Hills measures, W. 4·5," T. 4·3," t. 0·45," Bf. 0·3." At Shillong I did not notice them in any number until about July.

* The numbers refer to those in "Jerdon's Birds of India."

† Throughout this paper L. stands for Length, W. Wing, T. tail, t. tarsus, Bf. bill at front, Bg. bill at gape.

100*a*. CYPSELUS SUBFURCATUS, Blyth.

This is, I think, the first record of the occurrence of this species within the Indian area. I observed a few pairs in June breeding in the cliffs that overhang the falls of the "Umkrau" at Shillong. They were not easy to obtain, and the first I shot fell into grass so far down that it was never found; however, a day or two after I secured one, and after this they soon left the place. I could not get at the nests. My specimen agrees with those from Amoy and Malacca in Lord Walden's collection.

Wing, 5·1," t. 0·5," bf. 0·23." It will probably be found in all similar deep valleys with precipitous sides that occur in the Khási hills.

108*a*. CAPRIMULGUS JOTAKA, ♀, Schlegel.

I shot this bird near the Umshirpi falls on the 29th May. It got up off the path and immediately settled again about 10 yards off on the open path, on again putting it up it did the same. Captain Badgley, who was walking behind me, called out that he had found the eggs. I then put the bird up a third time and brought her down. The eggs were laid close in under the rock on side of the path lying on the bare ground with no signs of any thing in the way of preparation for them or the young. The two eggs are of a dull white, blotched with three shades of umber and one shade of ashy brown: in the one they are distributed pretty evenly throughout and this is symmetrical in form, the minor axis being in the centre of the length: in the other the markings are mostly confined to the larger end and the shape is rounder:

1st.	major axis	1·22,	minor axis	0·88."
2nd.	„	1·19,"	„	0·91."

Another ♀ was obtained by me near the village of Sopvomah in the Naga Hills, in January, at an elevation of 5000 feet, which, Lord Walden tells me, is identical with Japanese and Burmese individuals.

Caprimulgus is a common bird at Shillong during May and part of June, after which I did not hear their chukking noise so often, and at the time I started for Calcutta in August, they had apparently left the vicinity of the station owing probably to the increased rain-fall.

114. CAPRIMULGUS MONTICOLUS, Franklin.

From the Garo Hills.
W. 7·55," T. 4·85," t. 0· 83."

122. NYCTIORNIS ATHERTONI, Jard. and Selby.

Garo and Naga Hills.

126. Eurystomus orientalis, Lin.

This beautiful Roller is essentially a forest bird and was seen on several occasions on the Dunsiri. They frequented the trees that surround the large tanks at Dimapur, and I shot my specimens there.

140. Homraius bicornis, Lin.

Several fine specimens were brought in by Captain Badgley and Mr. Chennell from the Tipperah Hills. In the Naga Hills I observed four large Hornbills, which I believe were this species, near Tellizo Peak, in January,—the only Hornbills seen in that part of the hills, no fruit then being ripe. In the low Dunsiri forest, at that season of the year, Hornbills are very numerous.

The Tipperah birds were very fine, their dimensions greatly exceeding those given in Jerdon's 'Birds of India;' the largest measured as follows:

Wing 21·5," tail 19·0," tarsus, 3·0"

Length of bill along commissure to gape, ...	12·0"
Bill in a straight line from point to gape, ...	10.75"
Length of bill over culmen to posterior of casque, ...	16·5"
Depth of bill at centre of casque (highest part), ...	4·5"
Length of casque, ...	7·0"
Breadth of casque at base, ...	3·68"

Orange pink above, pinkish yellow on side of upper mandible and very red at the point; the lower is wax-yellow.

156. Picus cathpharius, Hodgson.

One specimen was got in the Nágá Hills in the rather open country near Sikhami.

♂ Description. Upper parts pure black. Primary coverts tipped white secondary wholly white, forming a very large wing patch. The white spots on both webs of the alars are arranged thus:

Primaries.	1st	2nd	3rd	4th	5th	6th	all the rest.
Inner web.	2	3	3	4	4	4	4
Outer web.	1	5	6	6	6	5	4
			tipped white				

Tail coloured diagonally buff on 3 outer tail feathers, which have a subterminal black spot, and the two outer either with a narrow black bar or two spots. Both above and below the eye pure white, buffish on the ear-coverts and frontal band; white at base of lower mandible, becoming buff on lower throat, and pale ochre on breast and abdomen, much streaked with

black particularly so on former. A black band from base of lower mandible, down side of neck, fading into the streaks of the upper breast. Occiput and side of neck crimson extending round behind ear-coverts and crossing the black line from the gape forming a gorget in front. Under tail-coverts pale crimson.

It is called "Khupi woi ru" by the Anghámi Nágás.

161. HYPOPICUS HYPERYTHRUS, Vigors.

Naga Hills.

Wing black, the primary coverts tipped white and the primaries spotted on outer-web. Tail black, two outer feathers barred black at tip, the antepenultimate tipped brown and with a single white spot. Bill pale yellow beneath.

168. MULLERIPICUS PULVERULENTUS, Temm.

Mr. Wm. Robert sent me this large form from the Garo Hills.

Bill greenish grey, lower mandible pale at tip.

176. VENILIA PYRRHOTIS, Hodgs.

Naga Hills.

177. GECINULUS GRANTIA, McClelland.

♂ and ♀ from Garo Hills.

The female wants the dull crimson on fore part of head and there is less yellow in the dull green of head and neck, the former in front is dull ochraceous.

201. CUCULUS POLIOCEPHALUS, Latham.

This bird was very abundant at Shillong in the early summer months, and I obtained it in every phase of coloration from the intense rufous to the pure ashy. The peculiar loud call is heard all over the Pine forests and I observed that sometimes the bird when perching sat along the branch, after the manner of *Caprimulgus*.

205. HIEROCOCCYX VARIUS, Vahl.

Garo Hills.

211*a*. CHRYSOCOCCYX XANTHORHYNCHOS, Horsfd.

This lovely bird from Hill Tipperah was obtained there by Mr. Ross Mangles, by whom it was given to me.

212. COCCYSTES MELANOLEUCOS, Gmel.

Was rather a common bird at Shillong in June. I have often witnessed the noisy way in which the males chase the female and Blyth's description is very true; a female measured—

L. 12·6," W. 5·9," T. 7·25," *t.* 1·15," *Bf.* 0·8;" irides very dark brown, legs pale plumbeous. The contents of the stomach of this bird were 3 of the large hairy caterpillars (3½ inches long) so common on the grass-lands in the Khasi Hills. This female had at least 10 eggs in ovary, which presented no very great difference of gradation in size. The cæca were 0·95" in length, intestine 11·5."

213. Coccystes Coromandus, Lin.

I have received this bird from the Garo Hills and from Hill Tipperah.

227. Æthopyga Gouldiæ, Vigors.

♂ obtained at Mezimih, Naga Hills, at head of the Lanier River, at 6000 feet. L. 5·8." W. 2·08," T. 3·18, *t.* 0·55," *Bf.* 0·58" It has a steel blue spot below the ear-coverts not noticed by Jerdon. The crimson extends over the eye as a supercilium and the lores are black.

228. Æthopyga ignicauda, Hodg.

This was rather a common bird in the Naga Hills at 5000 feet in January; generally seen in vicinity of the villages, in its winter dress. In my specimen the breast is not dashed with red at all, being quite plain orange yellow towards abdomen, and the female has no red about her at all. My female specimen has a slight trace of red just appearing on the feathers of the nape and back of neck. I fancy they ascend to breed about 9000 feet. *Saturata* was common at that altitude in April.

237. Dicæum chrysorhœum, Temm.

On the Samaguting ridge, *Nectarinidæ* were very common in the winter months, and I obtained this comparatively rare bird near the station in December. The irides are bright red, legs black.

L. 3·9," W. 2 3," T. 1·4," *t.* 0·52," Bf. 0·4."

233*a*. Leptocoma Hasselti, Temminck.

From Hill Tipperah; added to my collection by Mr. Ross Mangles, B. C. S.

242. Pachyglossa melanoxantha, Hodgson.

Shot at Sopvomah, Naga Hills, in December.

I was fortunate in discovering this curious form so far to the eastward in a new locality, it having been hitherto only known from Nipal and, I think, Ceylon. Jerdon says that the upper tail-coverts are green, in my specimen they are concolorous with the back. The irides are red and the legs dark plumbeous. Bill black.

Wing 2·9," T. 1·8," *t.* 0·6," Bf. 0·3."

Description. Above, all dull dusky grey, tail darker and brighter. Wing black, the secondaries sepia-brown. Sides of head same as the back. A white streak extends from base of bill down the centre of throat, some white about the sides of breast. Lower breast, abdomen, and under tail-coverts bright yellow. The two outer tail-feathers with a white spot on inner web close to the tip. Inside wing white.

244. CERTHIA NIPALENSIS, Hodgs.

A single specimen from the Naga Hills.

248*a*. SITTA NAGAENSIS, Godwin-Austen, Plate IV.

Was first noticed at Sopvomah in the Nágá Hills last winter and I obtained several specimens on the watershed at about 6000 feet. It has been described by me in the P. Z. S., 1874. I give a drawing and description.

Description. Above slaty blue, wings and centre tail feathers same colour but paler. Quills dull pale black. A black streak through lores extending to ear-coverts and down side of neck. Beneath dull dirty white, purer on chin and throat, with a few white feathers bounding the ear-coverts. Flanks thighs and under tail-coverts dark rusty chesnut, all the latter with a terminal white spot. Outer tail feathers black, a white patch on inner web of the three outer, which are tipped grey and terminally black on outer web, white on middle portion of the outer web of the outermost tail feather.

Bill black above, grey below. Irides dark brown; legs green black.

L. 4.9," W. 3·0," T. 1·75," *t.* 0·68," *Bf.* 0·58." spread of foot 1·2."

260*a*. LANIUS COLLURIOIDES, Lesson = HYPOLEUCOS, Blyth.

Found in the Iril valley, Munipur, in February and March, rare; this and *L. tephronotus* were the only Shrikes seen in Munipur. L. 7·5," W. 3·5," T. 3·8," *t.* 1·0," *Bf.* 0·58."

286. CHIBIA HOTTENTOTA, Lin.

Garo and Khasi Hills.

289. TCHITREA AFFINIS, A. Hay.

Samaguting, April. ♂ in full plumage.

L. 8·5," W. 3·6," T. 11·25," *t.* 0·58," *Bf.* 0·65."

310. MUSCICAPULA SUPERCILIARIS, Jerdon.

Young agrees with a drawing by Dr. Jerdon of the above in immature plumage; my specimen is from the Naga Hills.

331. MUSCICAPULA ŒSTIGMA, Hodgs.

Dr. Jerdon had told me that he obtained this rare Fly-catcher in the isolated dense patches of forest, on the north side of Shillong Peak in the

Khasi Hills; on my return to Shillong I looked for and found it tolerably numerous, getting some 8 specimens in May and June.

♂ Description. Above, side of neck, and upper breast cyaneous blue; wings and tail are black edged with same. A narrowish white line from base of lower bill to breast, which, with abdomen and under tail-coverts, is pure white; legs dark brown; bill black.

L. 4·5," W. 2·4," T. 1·78,' t. 0·6," *Bf.* 0·42."

I did not obtain a female, but it would appear, from a drawing by Dr. Jerdon, to be dull olivaceous above with white throat and breast.

323*a*. ERYTHROSTERNA SORDIDA, n. sp.

Three specimens of this bird were shot under Japvo Peak in January; having failed to identify it, I believe it to be undescribed.

Description. Above dull olivaceous brown, ochraceous on rump and upper tail-feathers. Tail umber-brown slightly tinged with ochre on outer web. Quills same as tail and pale-edged. The primary and secondary coverts very slightly tipped pale so as to form an inconspicuous bar on the wing. A pale ring round eye. Lores and ear-coverts dull grey with a rufous tinge. Beneath dull lutescent, darker on flanks. Centre of abdomen and under tail-coverts white.

L. 5·25," W. 2·6," T. 2·4," *t.* 0·5," Bf. 0·23." It is somewhat similar to *E. leucura* but the white basal half of the tail feathers in this last-named bird distinguishes it at once.

322. SIPHIA ERYTHRACA, Blyth and Jerdon.

This rare bird occurred under Japvo Peak, Naga Hills, at 6000 feet.

L. 5·0," W. 2·85," T. 2·2," *t.* 0·6," Bf. 0·35." A single specimen was procured by Jerdon at Darjeeling.

325. ERYTHROSTERNA ACORNAUS, Hodg.

I have this sombre coloured grey Fly-catcher from the Ihang valley in Munipur and from Shillong in the Khasi Hills; the specimen from the former locality measures, L. 4·0," W. 2·2," T. 1·6," *t.* 0.58," *Bf.* 0·33."

326. ERYTHROSTERNA MACULATA, Tickell.

Obtained in the Naga Hills by Mr. Wm. Robert, extending its range considerably to the eastward.

346. PITTA CUCULLATA, Hartlaub.

Given to me among other specimens from the Tipperah Hills by Mr. Ross Mangles. It is worthy of remark that now after 3 years of collecting I have never seen a *Pitta* on or near the northern range of hills south of the Brahmaputra (commencing with the Garos, and thence to the eastward) save the

large dull coloured form of Ground Thrush, *Hydrornis Nipalensis* of Hodgson, which occurs on the Burrail range.

346*u*. PITTA CYANEA, Blyth.

Given to me by Mr. Chennell of the Topographical Survey, who obtained it in Hill Tipperah. It is one of the most beautiful of these richly coloured Ground Thrushes.

366. PLANESTICUS FUSCATUS, Pall.

This bird, which agrees well with Jerdon's description, I shot on the Peak of Japvo, the highest point of the Burrail range just under 10,000 feet, during some hard weather in the early part of January; only one specimen was secured.

Description. Above umber-brown darker on the head, the feathers dark centered; rump ferruginous. Wing and tail dusky brown, coverts and secondaries edged pale rufous; a well-marked supercilium white, becoming broader behind the eye. Lores dark brown, ear-coverts the same but lighter. A rufous tinge on lower side of the neck; chin and throat sullied white, with an indistinct stripe, commencing as spots, extending from base of bill, down side of neck, and round to the ear-coverts. A gorget on breast grey brown, with rufous tinge near shoulder of wing and spotted with dark umber. Lower breast and belly pure white; under tail-coverts pinky ferruginous and pale tipped. Flanks and thighs tinged rufous the former spotted brown. Under wing-coverts rich ferruginous. The inside of quills grey.

Length 8·5," Tail 3·4," *t.* 1·3," *Bf.* 0·62." Irides dark brown; bill black above, dull yellow below; legs dull brown.

This bird much resembles *G. unicolor*, but is not so plainly coloured on the back.

373*a*. PARADOXORNIS AUSTENI, n. sp., Gould.

At Kuchai in the Naga Hills, at about 6000 feet elevation, in April, I obtained two specimens of this bird; I afterwards procured three at Shillong in the summer. They differed so much from my original specimens of *P. flavirostris* shot in the low marshy country at the base of the hills that I was inclined to consider them distinct. Mr. Gould, to whom I shewed these specimens and who had figured *P. flavirostris* from the original specimens sent home, pronounced them to be new to him, and has described and figured the species in the 'Birds of Asia,' under the above title. Not having his description, I will only mention that the chief points of difference lie in the pale nearly white colour of the under parts, the paler brown of the back, and a markedly different distribution of the black on side of head and breast.

My specimens measured—

L. 7·8," W. 3·3," T. 4·1," t. 1·05," Bf. 0·67," Bg. 0·4;" which dimensions are smaller than those of *P. flavirostris*.

Legs plumbeous with a slight tinge of green; bill yellow.

385. Pyctorhis Sinensis, Gmel.

This Babbler is very common in Munipur; dimensions of a specimen were:

L. 7·0," W. 2·6," T. 3·9" t. 1·05," Bf. 0·48."

390*b*. Turdinus Garoensis, n. sp., Plate VIII.

Above pale rufescent brown, rather richer on head, wings, and tail; feathers of head pale-shafted. Beneath, all pale fulvous, and whitish on abdomen.

L. 4·5;" W. 2.4;" T. 2·1;" t. 1·0;" Bf. 0·5."

Bill is brown above, pale ochre below, legs pale corneous. Tarsus and claws strong, the hind toe and claw long. It was among the birds collected by Mr. Wm. Robert in the Garo Hills, to whom is due the credit of its discovery.

This bird is very similar in coloration to *T. Abbotti;* but the bill differs much in the form of the nostrils, which have, as in *Pnoepyga*, a lunular cover. This and *Turdinus brevicaudatus* would be, perhaps, better placed after *Pnoepyga*, with which they are closely linked through *Pnoepyga longicaudata*.

400. Pomatorhinus ruficollis, Hodg.

This is the most abundant form of the genus in the Naga Hills, loving the damp shady sides of the forest-clad hills. It is called by the Anghami Nagas "Moh mera." In coloration it is very close to *P. leucogaster*, Gould, but is much smaller. I give a description with measurements.

Above, olive green rather rusty on back of neck, head darker, tail uniform with back and distinctly barred. A white supercilium, 1·6 inches in length, extends from base of bill to far back on neck. Lores and ear-coverts black, a rufous patch on side of neck behind the latter. Wings coloured like back and tail. Throat pure white sullied on breast with a few pale brown streaks. Flanks, abdomen, and under tail-coverts pale olivaceous; inside of wing grey. Bill yellow; irides red-brown; legs yellowish grey.

L. 7·25," W. 3·0," T. 3·4," t. 1·09," Bf. 0·8."

408. Garrulax cerulatus, Hodg.

This would appear to be a rather common Laughing Thrush in the Naga Hills; and I saw specimens that had been caught by bird-lime, the natives then still further spoil them by pulling out the quills and tail-feathers. Jerdon does not mention the grey on lower part of the ear-covert

which forms a pale spot; nude space round the eye dark grey, and a rufous patch from base of bill to under the eye.

L. 10·5," W. 4·0," T. 4·75," t. 1·6," Bf. 0·90."

409*c*. GARRULAX ALBOSUPERCILIARIS, Godwin-Austen, Plate VI.

Described in the P. Z. S. for 1874 as follows: "Above head and forehead reddish umber-brown paling on back of neck into dull olivaceous brown of the rump and whole of the wing; tail pale red brown; lores, a patch below eye, under ear-coverts, and supercilium which extends backwards for 1½ inches from the lores, white; upper portion of ear-coverts dark brown; chin and throat ruddy brown, paling on the breast into very pale dingy olivaceous, and into pale earthy ochre on abdomen and flanks; under tail-coverts rufous."

Bill black; legs fleshy brown; irides dull red.

Length 9·0," W. 3·8," T. 4·2," t. 1·38," bill at front 0·7."

One specimen obtained in the Munipur valley, near Kaibi.

This dull coloured *Garrulax* is very similar in coloration to *G. rufifrons*, Sw., from Java, which is a larger bird and has no white supercilium nor white lower ear-coverts. Another similar form is *P. cinereifrons*, Blyth, from Ceylon.

409*b*. GARRULAX GALBANUS, Godwin-Austen.

Figured and described in P. Z. S. for 1874 as follows: "Above pale pure olivaceous on head, with a brown tinge on the back; tail pale ashy-brown, the four central feathers tipped umber brown and barred, the four outer of the same colour in middle and broadly tipped with white; wing concolorous with back; quills pale umber brown edged grey. Very narrow frontal band, base of lower mandible, lores through eyes and ear coverts rich black; beneath dull yellow, purer on the throat passing into the olivaceous on the flanks; under tail-coverts white. Bill black; legs ash grey; irides red brown."

L. 9·0," W. 3·65," T. 4·1," t. 1·35," Bf. 0·8."

I first obtained this very handsome bird in the Munipur valley under the Koupru range, in February 1873. It associates in large flocks of from fifty to eighty or more, very noisy, following each other in a long string through the high grass, which they seem to frequent and prefer to the denser forest. When on the flight the white of their tail-feathers and under tail-coverts makes them very conspicuous. I observed it, also, on the head waters of the Barak and other streams that flow into the Munipur valley on the north-east. The nearest allied species is *G. gularis*, McClelland, which is also yellow on the breast; but is dark slate grey above, with rufous on upper tail-coverts, flanks, abdomen, and vent.

418*a*. GARRULAX MERULINUS, Blyth.

This fine dull plumaged bird was obtained at the head of the Thobal valley in March; it presents a good deal the character of *Trichastoma Abbotti* in its coloration, and approaches *Turdus* in the spotted breast. No description being included in Jerdon's 'Birds of India' I give one here. It was described by Blyth (J. A. S. B., Vol. XX., p. 521 for 1851) from Cherrapoonjee.

Above umber with a rufescent tinge, head darker brown; wings and tail dark brown, both plain, the former having no pale edges. Forehead pale grey, a very narrow short white streak above the ear-coverts, commencing just behind the eye. Beneath dull pale rufescent ochre, the throat and upper breast spotted dull black, each feather having the black spot at the central extremity. Under tail-coverts rusty. Inside of wing and underside of tail feathers grey. Tarsus very strong. Bill thick and blunt, grey horny. Legs dull fleshy purple. Irides pale reddish brown, nude skin round the eye grey.

In Anghami Naga "Moh mépeh."

418*a*. TROCHALOPTERON CINERACEUM, Godwin-Austen.

Described in the P. Z. S. for 1874, with plate.

Above pale ashy olivaceous, greyer on the tail which is black for 0·7 inches at the terminal end, then tipped broadly white. Quills pale black, edged hoary grey; the secondaries tipped black, and their square tips edged white in keeping with the tail. Primary coverts near the bastard wing black forming a wing spot. Top of head black, extending in a narrow line down back of neck; lores and a broad band over eyes and ear-coverts dingy white; a few pure white feathers below eyes merging into ear-coverts; a narrow black line extends from posterior corner of eye over the ear-coverts and a moustachial streak of the same colour merges into indistinct spots. Chin white with a few black streaks; breast and under parts sullied white with a slight vinous tinge on the former and a dash of ruddy rufous on side of the neck, ochraceous on belly and under tail-coverts.

Bill pale yellow shaded dark above; legs fleshy brown; irides pale ruddy ochre.

Length 8·75″, W. 3·22″, T. 4·0″, t. 1·25″, Bf. 0·68″.

In general style of coloration this bird approaches *T. variegatum*, Vigors. Its yellow bill and much smaller, weaker legs and feet, make it a very marked form of this genus.

Anghami Nagas call it "Lèhú."

426*a*. TROCHALOPTERON VIRGATUM, Godwin-Austen.

Described in P. Z. S., for 1874, as follows:

Head dark rufous brown, olivaceous on back, paler and greyer on rump; tail olive brown, with a slight tinge of rusty on basal half, finely and indistinctly barred; wing, three first quills grey on outer web, the rest and secondaries pale ferruginous, merging into rich chesnut at their base; coverts of the latter colour, narrowly tipped ochre, feathers of the winglet conspicuously white centred. Lores chesnut, a white supercilium; ear coverts pale rusty; chin and throat rich dark chesnut; breast and abdomen bright ochraceous; under tail-coverts darker brown. As viewed from below, the tail is grey brown, each feather faintly tipped with white.

All the feathers of the head, upper back flanks, and breast are centred white or pale ochre, and those of head and neck are rigid.

Bill black; legs pinky grey; irides pale brown.

L. 9·0″, W. 3·5″, T. 4·85″, t. 1·3″, Bf. 0·6″.

I obtained a single specimen near the village of Rázámi under the Kopamedza ridge at 5,000 feet in Naga Hills in the month of January. Starting just after sunrise for the peak above the village, I observed first one and then another bird, not familiar to me, cross the path in front into some thick scrub. In this we could only perceive their whereabouts now and then by the moving twigs. Followed about, they became separated and the specimen in my collection got into a low tree where it uttered a very sweet call of a few notes, which was answered by its mate; my Shikari then managed to get sight of it and shot it. I never saw the species again.

This strikingly plumaged bird is very close to *T. setafer*, Hodgson, with which I have compared it, but it differs materially. *T. lineatum*, Vigors, is another allied form which extends to the N. W. Himalayah while *setafer* is from Nipal and Bhutan.

427*a*. Actinodura Waldeni, Godwin-Austen.

Described P. Z. S. for 1874, with figure by Smit., it is thus described.

Head full crested, extending back for more than an inch, hairy grey edged pale; back rich brown, with a greenish hue, becoming more rufous on the rump and upper tail-coverts; base of tail feathers chesnut, for half their length narrowly barred with black, then black for terminal inch, the three outer tipped white; quills black, outer web chesnut at base, then barred with black, and the narrow terminal portion grey; primary coverts black, the winglet feathers grey, barred black; ear coverts hoary; side of head hair grey; chin, breast, and abdomen rufous brown, paler on chin and throat, the whole having a streaky appearance, the feathers being centered with a darker shade.

Bill grey; legs and feet fleshy brown; irides pale grey.

L. 8·0″, W. 3·48″, T. 3·45″, t. 1·2″, Bf. 0·62″.

I first shot this bird on the peak of Japvo at about 9000 feet on the Burrail range, Naga Hills. It keeps to the tops of the forest trees.

This is a small form of *A. Egertoni*, Gould, which occurs in the same locality; every character is repeated in the two forms, modified yet each distinct; no better example of gradual change in size and coloration could well be found.

430*b*. SIBIA PULCHELLA, Godwin-Austen, Pl. VII.

I shot two specimens only of this new and beautiful subdued coloured *Sibia* in April 1873, when making the ascent of the Peak of Khunho, Eastern Burrail range, Naga Hills, at about 8000 feet. In companies of about half a dozen, they haunted the tops of the Rhododendron trees, busily searching for insects in the flowers, and covering their foreheads and throats with the pollen.

I described it in the 'Annals and Mag. of Nat. History,' February, 1874, as follows.

Description. Above ashy grey, bluer on the head, the two centre tail feathers umber-brown terminating (each colour ¾ inch) in rich black, followed sharply by dark grey. The outer tail feathers are tipped in like manner with grey, but the black increases on each feather outwards, and on the last extends to its base. Shoulders of wing blue grey, with a bar of pale chocolate-brown coming in at the base of the black primary and secondary coverts. Quills grey-black, the primaries edged pale hoary blue; the secondaries blue grey, the last three are umber brown and the two last are edged narrowly on outer web with black. A narrow frontal band and lores black extending both over and below the eye to base of the ear-coverts. Beneath ashy blue with a vinous brown tinge upon the lower breast and abdomen. Bill black; legs horny brown; irides ?

Length 9·5″, W. 4·1″, T. 4·85″, t. 1·3″, Bf. 0·75″.

In the general distribution of the coloration and in form it resembles *S. gracilis*, which is extremely common in the same hills, but seldom met with above 6000 feet.

437*a*. MALACOCIRCUS (LAYARDIA) ROBIGINOSUS, Godwin-Austen, Pl. V.

I have described this in P. Z. S. for 1874: "Above rich rusty brown, darker on the head, with black shafts to the feathers; wings and tail of same colour, the latter distinctly barred; lores white, beneath pale rufescent, nearly white under chin, and pale on centre of abdomen.

Bill black, well curved; legs pale corneous or dull grey brown; irides nearly white.

L. 9·5″, W. 3·0″, T. 4·8″, t. 1·6″, Bf. 0.62″.

The first two specimens of this bird I shot in long grass near the Logtak Lake, Munipur, and again obtained specimens near Kaibi in the same valley. It is essentially a grass-bird, with all the habits of *M. terricolor*, Hodgson. It associates about a dozen together, flying through the grass,

one after the other, in a scattered line, never abiding long in one place. A near ally of this bird, *M. subrufus* from Malabar, is not so intensely rufous, has no white on the throat, is greyish on the head, and has a yellow lower mandible.

538*a*. PRINIA RUFULA, Godwin-Austen, Pl. IX, Fig. 1.

Described in P. Z. S. for 1874. I copy the original description from that Journal. Above, head ashy brown, becoming more russet on back and pale rufous on rump and upper tail coverts ; tail brown indistinctly barred, tipped white on the outer tail-feathers with a subterminal dark spot ; wing dark brown, with pale rusty brown edgings to primaries and secondaries ; lores, round eye and ear-coverts pale ash, below chin sullied white, greyer white on breast ; ochraceous on abdomen ; flanks and thighs pale brown.

Bill black, both above and below ; legs pale corneous, with darker claws ; irides ruddy ochre.

L. 4·75″, W. 1·82″, T. 2·4″, t. 0·75″, Bf. 0·4″.

This species was common in the Naga Hills and Munipur, and replaces *Hodgsoni*, Blyth, on the Khasi Hills side. It is quite distinct from *P. gracilis*, Franklin, which has a marked pale rufous forehead, and can be distinguished at a glance from the former bird, which is remarkably ashy with dark ear-coverts.

539*a*. CISTICOLA MELANOCEPHALA, And.=RUFICOLLIS Walden, Pl. X, Fig. 1.

I obtained several specimens of this form in the Munipur Hills, where it appeared common in the grassy valleys at head of the Barak ; some specimens do not shew the rufous on the neck so much as others. My specimens are identical with Lord Walden's from Assam, named by him *ruficollis*, but Dr. Anderson's title has priority.

539*b*. CISTICOLA MUNIPURENSIS, Godwin-Austen, Pl. IX, Fig. 2.

Described in P. Z. S. 1874 ; the original description follows.

"Above dark umber brown, feathers margined pale ochre on head, broader and more rufous on back ; upper tail-coverts plain rufous brown, the feathers on nape are paler rufous and dark shafting is subdued ; tail dark umber, the two centre feathers margined rufous brown, viewed from below tipped whitish, with subterminal dark spots ; white on chin, throat, and centre of abdomen, rufescent on breast and flanks. Pale round eye.

Bill black above, pale beneath ; legs fleshy brown.

L. 4·25″, W. 2·0″, T. 1·65″, t. 0·76″, Bf. 0·40″.

I obtained four specimens of this species on the reedy sides of the Logtak Lake, Munipur valley. It differs on comparison with *C. schœnicola* (Pl. X, fig. 2) and *melanocephala*, which I also obtained, being intermediate in coloration, and may be known at once by the dark edging along

the shafts of the centre tail-feathers, which in *melanocephala* are wholly dark, and in *schœnicola* are banded broadly rufous, terminating in black and white. It is very near *Cis. russica*, Wall., from the Island of Bouroo, Malay Archipelago, which is more rufous on the head and breast.

471*a*. ORIOLUS TENUIROSTRIS, Blyth.

Two specimens were shot by my collector in a thick wood near Lumlangtong or Bishunpur, Munipur, on the 18th February.

♂ L. 10·0″, W. 5·8″, T. 3·65″, t. 1·0″, Bf. 1·2″.

481. PRATINCOLA CAPRATA, Lin.

♀ In open grass of Munipur valley, in February; may be known at once from *Indica* and *leucura* by its rufous upper tail-coverts.

500. RUTICILLA AUROREA, Pallas.

This Redstart was numerous in the stubble of the rice-fields bordering the Barak valley near its sources in the Naga Hills, during the month of January.

531*a*. ORTHOTOMUS FLAVOVIRIDIS, Moore, = EDELA apud Blyth.

The common Malaccan Tailor-bird, I met with in the forest of the Dunsiri near Dimapur, and it agrees well with Malayan specimens. The bill alone being rather shorter and more slender.

The discovery of this bird in Assam extends its range considerably.

W. 1·85″, T. 1·70″, t. 0·70″, Bf. 0·60″.

I also got it at the base of the Garo Hills near Shushang, so that it, no doubt, extends all through Tipperah, Arracan, &c.

538. PRINIA HODGSONI, Blyth.

This little Wren-warbler is common enough in the hills about Shillong.

Jerdon's description being short, I give that of the Khasi form in more detail.

Description. Above ashy brown, greyer on head, tail pale brown indistinctly barred, with black subterminal spots and white tipped. Wings pale brown edged pale rufescent. Pure white on chin, grey on throat and breast and white on abdomen and under tail-coverts. Some specimens have a faint tinge of ochre on the flanks and thighs. Orbits brown, irides orange ochre. Bill black above and below, legs yellow brown.

L. 4·35″, W. 18·2, T 2·15″, t. 0·68″, Bf. 0·4″.

538*b*. PRINIA RUFESCENS, Blyth.

This bird agrees with specimens of *P. rufescens* from upper Burmah collected by Dr. Anderson when on the Yunan Mission, but it is somewhat larger and more intensely rufous.

W. 1·85, T. 2·55, t. 0·9″, Bf. 0·4″.

542. GRAMINICOLA BENGALENSIS, Jerdon.

This bird is not easy to bag, it shifts about through the grass seldom rising, and if once scared gets low down near the ground and hides. I obtained one specimen at the head of the Barak valley, Munipur.

548. SUYA FULIGINOSA, Hodgson.

Is quite distinct from *S. atrogularis*, and I obtained several specimens at Shillong.

Bill above black, beneath palish, legs pale flesh, feet brown. Lores and supercilium pale. Irides ochre, tarsus stout.

L. 6·4″, W. 2·0″, T. 3·27 to 4·4, t. 0·8″, Bf. 0·42.

Suya atrogularis, Moore, its nearest ally, has the bill black above, dark horny below, legs orange fleshy, irides pale ochre, white on upper margin of eye and a few of the dark ashy feathers of the supercilium tipped white.

552*a*. NEORNIS ASSIMILIS, Hodgson.

I shot this bird both in the Naga Hills and at Shillong; it is Blyth's *Drymœca brevicauda*. As it is a bird little known, a description here may be useful.

Above brownish olivaceous, tail umber brown and rather more rusty brown on wing, pale line through lores over eye. Below dusky whity brown, paler on chin. A pale ring round eye, and a slight tinge of yellow on inside of shoulder of wing.

L. 4·75″, W. 2·1″, T. 2·3″, t. 0·8″, Bf. 0·38″.

568. REGULOIDES EROCHROA, Hodgson.

Naga Hills. February.

568*a*. REGULOIDES FULVOVENTER, n. sp.

Above centre of head, light yellow green bounded on either side by broad dusky bands; and nape pale greenish ash. Pure ash on back, upper tail-coverts grass green as well as the two central tail feathers and outer edge of all the others. The two outermost as viewed from below have a narrow pale yellow edging on outer web. Shoulder of wing ash grey, coverts ash brown with a narrow white bar. Quills dusky brown, the secondaries well marked with grass green. A pale yellow supercilium. Ear-coverts pale, chin very pale yellow; throat, breast, and abdomen pale pearly white, under tail-coverts bright yellow.

L. about 3·75″, W. 2·0″, T. 1·4, t. 0·70″, Bf. 0·4″.

Bill above dark brown, below orange; legs and feet grey. This Warbler is so distinct from any I have been able to look over, that I think it is a distinct species. I obtained it when in the low country of the Dunsiri, Assam.

566. REGULOIDES CHLORONOTUS, var. Hodgson.

This form was very common in the opener forests on the slopes of the Burrail range.

W. 1·85″, T. 1·35″, t. 0·7″, Bf. 0·25″.

It is very similar to *chloronotus*, but the band on rump in my three skins is nearly white.

574. ABRORNIS FLAVIVENTRIS, Jerdon.

From the Garo Hills; one specimen only.

578. ABRORNIS CASTANEOCEPS, Hodgson.

This pretty little *Abrornis* I saw several times in the Naga Hills when the forest was pretty open, and I shot a specimen at the head of the Iril valley in Munipur; I believe it has only been previously procured in Nipal and Sikkim.

Description. Crown of head dark chesnut with some darker feathers towards nape, which is dark ash. Back grassy green, upper tail-coverts pale yellow; centre tail feathers pale dusky brown, the two outer white with a dusky edging on the terminal ⅓rds. of their length. Wing grass green, the coverts tipped yellow forming one distinct and lower band and one indistinct upper one. Beneath, chin and breast bluish white. Flanks, inside shoulder of wing, belly and under tail-coverts canary-yellow. Bill above dark brown, below orange; legs olive brown.

L. 3·6″, W. 1·95″, T. 1·6″, t. 0·66″, Bf. 0·29″.

588*a*. ENICURUS LECHENAULTII, Temm. = CHINENSIS, Gould.

This bird was given to me by Capt. Badgley of the Topographical Survey, who shot it in the Lushai Hills in company with *G. immaculatus*. Obtaining this species in this locality so far west is very interesting, and marks its extreme limit on the Indian side.

Length about 10″, W. 4·2″, T. 5·8″, t. 1·28″, Bf. 0·9″.

The measurements of the Hill Tipperah *E. immaculatus*, Hodgson, are—

Length about 8″, W. 3·6″, T. 4·9″, t. 1·1″, Bf. 0·61″.

589. MOTACILLA MADHRASPATANA, Briss.

On the upper Barak river, in February, a pair were shot.

595. NEMORICOLA INDICA, Gmel.

Shillong, Khasi Hills.

614. LEIOTHRIX LUTEUS, Scopoli.

Shillong, Khasi Hills.

It is not so common on these hills as *L. argentauris*, and I seldom came across it.

618. MINLA IGNOTINCTA, Hodgson.

Was very numerous in the woods about Sikhamih, Naga Hills, in January.

622. PROPARUS VINIPECTUS, Hodg.

This "Plain brown hill Tit" was only seen on the highest part of the Burrail range on Japvo Peak, about 9,000 feet.

Bill black, irides pale ochre, legs and feet pale umber-grey.

L. 4·5″, W. 2·2″, T. 2·1″, t. 0.9″, Bf. 0·3″.

624. IXULUS CASTANICEPS, Horsfield.

This is not an uncommon bird in the Naga Hills east of the Burrail at 5—6,000 feet, and as there is no description of it in Jerdon I give one here. Above dark olivaceous, tail brown, forehead rufous merging into the olivaceous brown of the top of head. Wing umber-brown. A white supercilium from above eye extending to the neck, fading into some streaky buff and black feathers behind the ear-coverts. A black band borders the white above. Lores and ear-coverts sooty. Chin, throat, and upper breast buffy white, sullied white on abdomen, flanks olivaceous. Irides dark red-brown; legs and feet pale fleshy. Bill grey-brown, feathers of head scale-like.

L. 5·58″, W. 2·2″, T. 2·5″, t. 0·95″, Bf. 0·45′.

628. YUHINA NIGRIMENTUM, Hodg.

Sent to me by Mr. Robert from the Naga Hills.

632. SYLVIPARUS MODESTUS, Burton.

This very small form of Tit was numerous, in April, on the high parts of the Eastern Burrail range, just under the peaks of Japvo and Khunho, in small parties together. It moves rapidly and actively about the upper branches, and round and up perpendicular branches like *Sasia*, which its long hind-toe enables it to do. It was busy feeding about the Rhododendrons then in bloom.

The tips of the secondary coverts are pale, forming an inconspicuous band on wing; feathers of the head rather stiff, broad, and long, nearly hiding the bright yellow supercilium.

L. 3·5″, W. 2·3″, T. 1·5″, t. 0·58″.

634. ŒGITHALISCUS ERYTHROCEPHALUS, Vigors.

Legs orange, irides yellow-ochre or yellow.

W. 1·87″, T. 2·05″, t. 0·6″, Bf. 0·2″.

Naga Hills, several specimens obtained near Kohimah in January.

644. PARUS MONTICOLUS, Vigors.

Common enough in the Naga Hills.

The outer web of the outer tail-feather is white.

660. CORVUS CULMINATUS, Sykes.

Shot in the Naga Hills, the only Crow seen there, and at Sopvomah was extremely numerous in January, associating together in large flocks.

672*a*. UROCISSA MAGNIROSTRIS, Blyth.

Shot at Sikhami, Naga Hills, at 5,000 feet, in February.

L. 26″, W. 7·4″, T. 17″, t. 2·15″, Bf. 1·46″.

Irides dark brown, bill and legs orange red. Primaries dull cobalt-blue.

691. SARAGLOSSA SPILOPTERA, Vigors.

Both ♂ and ♀ received from Garo Hills from Mr. W. Robert.

699*a*. MUNIA SUBUNDULATA, Godwin-Austen.

Described in P. Z. S. for 1874.

"♂. Above pale umber-brown, darker on the head, pale grey on rump, a few feathers edged paler; the upper tail-coverts dull yellow; tail-feathers olivaceous umber-brown, faintly edged with same yellow tint; quills pale chesnut on outer web, umber-brown on the inner, and indistinctly barred. Sides of head umber-brown becoming dark chesnut on chin and throat; breast and flanks white, feathers very narrowly barred or margined rufous-brown; abdomen and under tail-coverts dull white, the latter sparingly streaked with brown; feathers of the back finely pale-shafted."

Bill dark grey; feet plumbeous; irides red.

L. 4·3″, W. 2·10″, T. 1·70″, t. 0·55″, Bf. 0·45″.

♀ is a duller brown above, with no white shafts to the feathers, a distinct green tinge upon the tail feathers, otherwise as in *M. undulata*.

Change of coloration in young males commences on the centre of the throat, extending towards the base of bill into the dark chesnut, and towards the breast into the undulated colouring of those parts.

Obtained in the Munipur valley, both on the Logtak Lake and head of the Barak river. It is a very close to, but distinct from *M. undulata*, Latham, in which the undulations are broad, the general coloration is more rufous, and the tail more pointed. It is also close and intermediate to *M. nisoria* from Java and Malacca; but in that bird the tail-coverts are grey, with no trace of the fulvescent tinge common to the two continental forms. Lord Walden was the first to notice it as distinct, in specimens in his collection received from Burmah which are identical with my own from Munipur, and he kindly allowed me to describe it.

703. Munia Malabarica, Lin.

Specimens were obtained at Kooshtia, in November.

708. Passer cinnamomeus, Gould.

Under Burrail range, Naga Hills; not often seen. At Shillong it is commoner.

L. 5·2″, W. 2·63″, T. 1·98″, t. 0.68, Bf. 0·42″.

710. Passer montanus, Lin.

Garo and Khasi Hills.

719. Emberiza fucata, Pallas.

This bird from head of the Barak valley differs from Jerdon's description in colour of legs and feet, which have no tinge of yellow, being a dull flesh-colour. The outer tail-feather is white on basal end, extending as a diagonal bar through inner to the outer web; the penultimate is tipped white on inner web. Centre tail-feathers rufous with black centre, and the rump is rufescent with small black streaks.

L. 6·45, W. 2.9″, T. 2·62″, t. 0·85″, Bf. 0·42″.

724. Melophus melanicterus, Gmelin.

During February and March, this handsome Bunting was very numerous in the high grass skirting the river Iril, Munipur valley, particularly about Kaibi.

♂ L. 6·5″, W. 3·35″, T. 2·85″, t. 0·75″, Bf. 0·48″.

762. Alaudala raytal, Buch. Hamilton.

Occurs abundantly on the sandy churs of the Brahmaputra, and I shot it near Gwalpara, in November.

L. 5·25″, W. 3·35″, T. 2·0″, t. 0·75″, Bf. 0·40″.

On the same churs, among low bushes, *Pratincola leucura* was very common; *Cotyle sinensis* and *Prinia flaviventris* were also procured.

771. Treron Nipalensis, Hodgson.

I have compared my specimens with the above from Sumatra and Malacca, and they are identical. It was not uncommon in the Dunsiri forest between Dimapur and Golaghat, and I shot it again on the road to Shillong near Gowhatty. It does not appear to range above 1,000 feet.

♂ measures L. 10″, W. 5·55″, T. 3·86′, t. 0·83″, Bf. 0·56″.

782. Alsocomus puniceus, Tickell.

This beautiful Wood-pigeon was shot at the hot springs of the Namba on the Dunsiri river in April. These springs are saline and attract enormous numbers of *Carpophagæ (insignis* and *sylvatica)* to their waters to drink;

and when the above bird was picked up, a quantity of the saline water poured out of its mouth.

797. TURTUR HUMILIS, Temminck.

Garo Hills.

806*a*. CERIORNIS BLYTHII, Jerdon.

♂ described in the J. A. S. B. 1870, p. 60.

This bird is very difficult to obtain, and I failed to get the female, which has never yet been seen by any European. I heard them in the forest on the ascent to Khunho, but although I offered 20 Rs. for a bird, the Nagas only once succeeded in getting one; this, a male, was snared near the village of Viswémah, but thinking that I wanted the feathers only, the natives had, to my utter disgust, picked and eaten it. Another male was brought to Captain Butler, the Political Agent of the Naga Hills, when passing through the village of Jotsomah (also under the Burrail range), but it had been skinned so badly that it was falling all to pieces and the most we could do was to save a few of the better pieces of the skin for the sake of the feathers. The Burrail range is the extreme western limit of this bird, and it has not been got even there, west of the peak of Paona, where the specimen in my collection was obtained by Mr. Wm. Robert, a most assiduous collector, whom I have to thank for very many good birds. Its haunts are in the dense forest from 6000 to 10,000 feet, and this renders it such a difficult bird to bag, and the only chance of shooting a specimen would be by coming upon it suddenly along a more open bit of ridge, or in one of the higher clearings. It was unknown to the Nagas of Asalu. It probably extends some distance to the eastward until it meets its near ally *C. Caboti*. Jerdon was the first to notice it in the 'Ibis' (1870, p. 147) from the Suddya Hills.

823*a*. BAMBUSICOLA HOPKINSONI, nov. sp., Godwin-Austen.

♂ Description. Above head plain dull brown, becoming rufous on back of neck, back dull olivaceous grey. The feathers of upper back and scapulars centered with dark chesnut, the secondary coverts more broadly so and terminated in black. The feathers of the back have one or more small white spots on the outer margin, giving the back a well-speckled appearance. The rump feathers are indistinctly barred white with a single black spot and increase in size to the upper tail-coverts where the spots are conspicuous, heart-shaped with chesnut centres. Quills ruddy chesnut, the secondaries and tertiaries mottled with dark brown. Tail ruddy-brown, feathers narrowly barred with pale ochre having dark mottled edgings. Lores pale buff extending as a supercilium; ear-coverts, chin, and upper throat pale ferruginous; a black streak extends from posterior margin of the eye down side of neck; from lower part of neck for a short distance the feathers are centred rufous with

pale spots on outer margin, rest of breast buff, lighter on abdomen and sides; barred on centre of breast and flanks with black, the barring not shewn but each feather has a terminal black heart-shaped spot, which is a conspicuous character.

Legs pale grey with green tinge; bill pale horny-black, pale beneath, irides dark brown.

L. 14·5," W. 6·25," T. 5·0," t. 1·2," Bf. 0·9."

Through the kindness of Dr. J. Anderson, I have examined a specimen of *B. Fytchii* ♀ from the Yunan Hills, and with this the Khasi bird is evidently very closely allied, if indeed it should not turn out to be identical; but between my bird and *B. Fytchii* there are differences which, though perhaps small, separate them, and until birds of the same sex are placed side by side, we cannot well decide whether they are two *good* species or not. To begin the enumeration of the points of difference, the Yunan bird (A) is much smaller than the Khasi one (B):

(A) *B. Fytchii*, t. 1·7," mid-toe 1·7".

(B) *B. Hopkinsoni*, t. 2·1," „ 2·1".

Other dimensions of (B.) L. 14·5," W. 6.25" T. 5" Bf. 0·9".

In (B) the feathers on the flanks have the black terminal spot invariably heart-shaped, whereas in (A ♀) the corresponding feather is a diamond form (*vide* also the figure of ♂ in P. Z. S., 1871, Pl. XI).

In (A) the whole of the lower back is plain olivaceous with a few of the longest upper tail-coverts having a black triangular (isosceles-shaped) terminal spot followed by a white base.

In (B) these spots are much larger and broader and extend up over the rump, and the feathers are more distinctly barred with brown and have a rufous tinge at the base.

In (B), and I think this is the most important difference, all the feathers of the upper back are spotted with white, and this feature extends to the wing coverts and shoulder of wing. In (A) there is no tendency to this coloration nor is there any trace of it in the plate in the P. Z. S.

(A.) is dark brown on chin, (B.) very pale.

(A.) tail not distinctly barred, (B.) tail well-barred and the pale bars edged with black.

(A.) tail beneath dull brown, (B.) tail ruddy brown.

However, whether they be separable or not, and a larger series will decide this, one important point is finding this bird so far to the westward, within Indian limits; it has never before been recorded. My specimen was shot at Shillong on grassy slopes at 5000 feet. Before I had seen the bird in hand, I had twice seen it running on the pathway and noticed its very different flight from that of the Black Partridge, which at first I thought it was. Now that attention is called to it, other specimens will no doubt turn up.

825*b*. ARBORICOLA INTERMEDIA, Blyth.

In my 2nd list I recorded *A. rufogularis*, Blyth, from N. Cachar; this I now find, on obtaining another specimen in the Naga Hills, to be *intermedia*, originally described as probably from Arakan (J. A. S. B., XXIV, p. 377). But *A. rufogularis* will still remain on the list with a new locality, the Naga Hills, where Captain Butler obtained a ♀, which at the time I could not make out from never having met with it before. *Intermedia* may be known at once by the plain, unbarred back and by the absence of the black separating the rufous of the neck from the grey of the breast; it is in front spotless, but has large round black spots on the side of neck. Dimensions of *intermedia*, Blyth, from Naga Hills:

W. 5·75," T. 2·6," t. 1·7," Bf. 0·7, mid-toe and -claw, 1·82."

Legs red. Bill black.

A. rufogularis, ♀, from Naga Hills, legs pale fleshy violet, measures—

W. 5·32," T. 2·5," t. 1·58," Bf. 0·5," mid-toe and -claw, 1·75."

I found the nest of *Arboricola* in the forest at the head of the Jhiri River, N. Cachar, constructed close in under the large root of a tree near the base; it was lined with dry leaves which then (March) strewed the ground and contained three eggs of a light brown colour.

833. TURNIX OCELLATUS, Scop.

Shillong, Khasi Hills.

834. TURNIX DUSSUMIERII, Temm.

Naga Hills.

835. TURNIX SYKESII, A. Smith.

Khasi Hills.

895. TOTANUS STAGNATILIS, Bechstein.

Munipur, in March.

908*a*. PORZANA BICOLOR, Walden.

The original specimen, from which the description was made by Lord Walden, came from Darjiling. It was very interesting to find it again occurring in the Khasi Hills (June). I got it in a small piece of marshy ground in the station of Shillong, together with the species of *Porzana* that follow. Bill glaucous green with slight tinge of red near base of mandibles and tipped grey; irides crimson-red, orbits red; legs pale dullish vermillion.

L. 8·75," W. 4·4," T. 2·4," t. 1·5," Bf. 0.9."

Mid-toe and -claw, 1·75," hind-toe and -claw, 0·65."

Two specimens were brought to me alive by a Khasia with one egg, which he said was that of this bird; it measures 1·4" in major diameter,

1·0″ in minor diameter, is of a creamy white colour, unspotted on the smaller end, distantly so on the lower ⅓rds., closely on the larger end, the spots all pale grey, with light and dark shades of sepia. The birds did not live long in confinement, although they ate greedily of earthworms.

Captain Elwes tells me that he procured this bird in the interior of Sikkim, at Choongtam, at an elevation of 5000 feet, in September 1870; to him therefore belongs the credit of being the first to discover it. This specimen, with others, was lent by him to Mr. A. O. Hume for description, but the box containing them appears to have been lost on its way to Agra. Captain Elwes found this Rail in rice-fields which are the highest in Sikkim; my bird was found in similar ground, and at the same elevation.

911. Porzana fusca, Linnæus.

Obtained at Shillong in June.

L. 7·5,″ W. 4·0,″ T. 2·2,″ t. 1·35, Bf. 0·75.″

Mid-toe and -claw 1·6″. Bill dull dark green, orbits vermillion, irides orange, legs pale vermillion. The under tail-coverts are dark umber-grey in my specimen (not olivaceous as stated in Jerdon), and closely barred with white.

913. Rallus striatus, Linnæus.

Dimensions are smaller than those given in Jerdon, but the bird does not differ in coloration from specimens from the rest of India.

L. 9·5,″ W. 4·75,″ T. 2 0,″ t. 1 65,″ Bf. 1·4.″

Mid-toe and-claw 1·8,″ hind-toe and-claw 0·62,″ irides sienna-brown, legs and feet ash-grey. Bill pink at base, pale grey-brown at tip, brown above.

The bill is much lengthened, and in the presence of a shield-like expansion at base above, approaches nearer to the Water Hens (*Gallinula*) than other Rails. The tarsus is very stout and the feet are shorter and stouter than in *Porzana*.

It occurred in the same swamp with the two preceding forms.

917. Mycteria australis, Shaw.

Bisnath, Assam; in December.

920. Ciconia leucocephala, Gmelin.

On Brahmaputra.

949. Anser indicus, Gmelin.

In large flocks on the Logtak Lake, in February; they leave the water to feed in the stubble of the rice-fields in the morning and evening.

955. Casarca leucoptera, Blyth.

I got this bird at Dimapur on the Dunsiri River; it appears to prefer sluggish streams like this flowing through forest, for I once flushed this bird in such a haunt in the interior of the Garo Hills. I am informed by Mr. James of the Police at Samaguting that it breeds on the Dunsiri, and that he had shot the young birds. It is called the "Deo Hans" in Assam. Mr. J. Burt of Tezpur informs me that the white-winged Sheldrake perches on trees, and that one was killed thus sitting by Mr. J. Martin of Paniputa Tea plantation near Tezpur.

The habits and haunts of this species are as completely the reverse of its congeners *rutila* &c. as they well can be.

962. Dafila acuta, Lin.

Tolerably abundant on the Beels in Munipur, in February.

963. Mareca penelope, Linn.

Very numerous in Munipur, in February.

971. Fuligula cristata, Ray.

Munipur, on the Lamphel.

975. Podiceps Philippensis, Gmelin.

Beels, Munipur.

Anas pœcilorhyncha, Pennant was a very common duck on the Logtak Lake, in February. I have nowhere seen it so numerous.

General notes on other species.

The specimens of *Ephialtes* that I have hitherto procured in the Naga Hills and Asalu, are undoubtedly *lempigi*, Horsfield, like birds from Java, &c., of which the very rufous one mentioned in my first list is in that particular phase of plumage.

Micropternus phaioceps, Blyth.

I have two specimens in my possession, one of which is from the Tipperah Hills, the other from Dimapur, Assam; both are much darker and much more distinctly barred on back than others, and have at the same time stronger bills; and both are smeared all over the head, tail, and feet with some dark gummy substance that they are evidently fond of getting into.

Cyanops Asiatica, Lath.

I notice that all the specimens in my collection from these Eastern Hills, have a small triangular patch of scarlet (0·3″ wide) at the gape, a point not noticed in any description I can find, nor is it shewn in the figure of this species in "The Marshalls'" monograph of the Barbets,

Pl. 26. I pointed this out to Lord Walden, and having looked at his specimens from the N. W. Provinces and Nipal, found in them the slightest trace of a few very minute red feathers near the gape; these are so small that in a stuffed specimen they might be easily overlooked; in birds from Assam and Munipur this red spot is so well developed that it could not escape attention.

Eumyias melanops, Vigors.

Breeds in the Khasi Hills, on the Shillong or northern side, in April. Young birds well-fledged were brought in to me in the middle of May.

Harpactes Hodgsoni.

Two specimens of this species, from the Garo Hills, have the crown of the head whitish-grey mixed with pink and whitish towards the nape, in other respects they are identical with the above species. Are they in immature plumage?

Pomatorhinus McClellandi.

Birds from the Naga Hills, I notice, have a longer bill, and the spottings on the breast are darker and occasionally form a demi-collar.

I have received a specimen of *Arachnechthra Asiatica*, Latham (= *carrucaria*, Lin.) from Hill Tipperah, which I considered at first to be *intermedia*, Hume. However, on comparing it carefully with specimens from Candeish Gwalior, Manbhoom, Umbala, Lower Bengal, Garo Hills, and Tonghú, I can detect no difference whatever in coloration, and their bills run so close in size that I do not consider it a species that will stand,—certainly not on the very small and sole difference of a slightly longer bill. If such single characters are to be allowed weight, we should have species multiplied *ad infinitum*, and if the Tipperah form of *A. Asiatica* should be larger, it is sufficient to notice the peculiarity as a large variety, but why encumber nomenclature, when no other differences exist, with another name and create a new species.

A female *Niltava* in young plumage shot under the peak of Japvo, Naga Hills, in January, when it would nearly have arrived at maturity, differs so much from the dimensions of *N. grandis* (to which it is nearest in size) and *N. sundara* that I am inclined to consider it an intermediate new form. Females of *grandis* and *sundara*, irrespective of size, have a very similar coloration; the species I have before me, differs slightly from both, a difference it is not easy to explain in writing, and so often to be noticed in allied forms. The inside of the wing is pearly grey, and the tail is not so ruddy dark a brown as in *grandis*. A young *grandis* ♀ in my collection, with the head still well spotted with pale rufous, closely equals in size birds in full plumage, with the greyer head and nape. My bird has no sign of the blue shoulder-spot, and the first primary

is proportionably much smaller and shorter than in undoubted young *grandis*. I give a full description so that the next collector visiting the Naga Hills may be on the look out for an intermediate form of *Niltava*, and if such there be, obtain the male.

Description. *Niltava* ? ♀ of first year. Above olivaceous with an ochre tinge. Ashy on head, more rufous on upper tail-coverts. Tail ruddy dark brown. A pale ring round eyes, less conspicuous above than below, wing feathers closed, umber brown. Lores tinged pale rufous. Beneath chin pale rufous, with a few pale grey bars, breast to abdomen rufescent ashy, thighs pale ash-brown, a pale dull streak extends from chin to upper breast, ending suddenly, abdomen sordid white, under tail coverts pale ochre brown, darker centered and tipped pale, inside shoulder of wing dull ochre. Quills inside pearly-grey. Shot in underwood on ascent to Japvo peak January 1873, three were seen together. The bill is black, shorter and stouter than in *grandis*. Irides dark brown.

N. grandis. = L. —, W. 3·95″, T. 3·9″, t. 0·92″, Bf. 0.52′.
N. ? = L. 7·4″ W. 3·9″, T. 3·5″, t. 0·78″, Bf. 0·44″.
N. sundara. = L. — W. 3·1″, T. 2·5′, t. ·80″, Bf. 0·42″.

Pnoepyga longicaudata, Moore.

Is very numerous in August in the large woods below the peak of Shillong, and I got several in that locality. There can be no doubt that the bird in Griffith's collection came from the north-east frontier, and not from Afghanistan. It is a shy bird keeping to the dense underwood. The irides are dark crimson.

358*a*. *Turdulus pallens*, Pallas.

Was frequently noticed in the Naga Hills, and I obtained a specimen on Japvo Peak, close under 10,000 feet, in January. They agree well with specimens in Lord Walden's collection.

Above pale umber-brown, a white supercilium extends to over the ear-coverts. Lores and ear-coverts dark umber. A white patch under eye, and white on chin extending down centre of throat to upper breast, very narrowly defined in some birds; side of throat first mottled with umber passing into two indistinct streaks on either side. Breast pale rufous-brown above, white below to abdomen. Under tail-coverts pure white. Flanks rusty; no rufous inside wing, which is all grey.

L. 9·0″, W. 5·0″, T. 3·6″, t. 1·2″, Bf. 0·7″.

A nest of *Pycnonotus pygæus*, Hodg., brought in by my shikari at Shillong in June, contained 3 eggs of a pale madder ground, spotted and speckled with darker madder-brown, pale neutral grey, and a few dark brown spots,—all pretty evenly distributed.

The nest is 4 inches across, neatly made with a foundation of dry old leaves and broad blades of grass; the sides of thin stalks of a thistle and thin sticks, and lined within with very fine grass; taken in a low tree.

Spizixos canifrons breeds in the neighbourhood of Shillong, in May. Young birds are seen in June.

Enicurus nigrifrons of 1st List, Vol. XXXIX., Pt. II., p. 107, is *E. maculatus*, Vigors, in immature plumage.

584 of same list is, I find, *guttatus*, Gould, in which the white markings on the back are all circular, this would appear to replace *maculatus* in all these Eastern Hills, for I have never yet shot a specimen, like this last north-west form.

Up to March, when we left Munipur, I did not observe any Parrots or Hornbills in any part of the valley, or hills bounding it. The natives say that later in the season parrots are very numerous and do considerable injury to the crops. Of Swifts I saw only one, a large species, which I failed to secure. *Cypselus infumatus*, Sclater, occurred in the Naga villages, and was very numerous in the large one of Padhang. *Pnoepyga* must be rare, for I did not get a single skin anywhere in N. E. Munipur. The country gets much drier on that side and the forest less dense, with a good deal of grass. Buntings were very plentiful and *Emberiza pusilla* appeared everywhere to be the commonest bird in the Naga Hllls, at 3—5,000 feet.

In the pine forest that covers the slopes of the hills descending into the Umiam valley, one of my men marked a nest on June 25th; I proceeded to the spot soon after I had heard of it, and on coming up to the tree, a pine, saw the female fly off out of the head of it. But the nest was so well hidden by the boughs of the fir, that it was quite invisible from below. The bird after a short time came back, and I then saw it was *Sibia gracilis*, but was very shy and seeing us went off again, and hung about the trees at a distance of some 50 yards; while thus waiting, some 4 or 5 others were also seen. The female, however, would not venture back, and I sent one of my Goorkhas up, to cut off the head of the fir, nest and all, first taking out the eggs.* It contained three of a pale sea-green, with ash-brown streakings and blotchings all over.

The nest was constructed of dry grass, moss, and rootlets, and the green spinules of the fir were worked into it, fixing it most firmly in its place in the crown of the pine, where it was much forked.

Sibia has habits very like *Phyllornis:* they hang about the outer branches much in the same manner, and there is again a certain likeness in general coloration between *S. gracilis* and *Otocomptsa jocosa* barring the colored under tail-coverts of the last. However, in *Sibia* the form of

* This nest is in the Indian Museum.

nostril is very different. I have heards *gracilis* rather noisy in the spring, uttering a loud single note, repeated three or four times in succession.

453a. Phyllornis Cochinchinensis.

Of 2nd List is *P. chlorocephalus*, Walden; I obtained another pair at Dimapur, on the Dunsiri River, in December.

It was described by Lord Walden from Burmah; its extreme known western range is, therefore, now the Garo Hills.

Trochalopteron Austeni, Jerdon.

Was bagged again near the eastern extension of the main water-shed, on Kopamedza Peak, at the same altitude as before. It has been beautifully figured by Gould in the 'Birds of Asia,' Plate 187.

Explanation of the Plates.

Pl. IV. *Sitta Nagaensis*, Godwin-Austen, p. 157.
Pl. V. *Malacocircus (Layardia) robiginosus*, Godwin-Austen, p. 164.
Pl. VI. *Garrulax albosuperciliaris*, Godwin-Austen, p. 161.
Pl. VII. *Sibia pulchella*, Godwin-Austen, p. 164.
Pl. VIII. *Turdinus Garoensis*, n. sp., p. 160.
Pl. IX. Fig. 1. *Cisticola Munipurensis*, Godwin-Austen, p. 165.
——— Fig. 2. *Prinia rufula*, Godwin-Austen, p. 165.
Pl. X. Fig. 1. *Cisticola melanocephala*, And., p. 165.
——— Fig. 2. *Cisticola schœnicola*, Bonap., p. 165.

Descriptions of a few Indian Plants.—*By* S. Kurz.

(Received Nov. 1st, 1874.)

1. Miliusa tristis, Kurz in Journ. As. Soc. Beng., 1874, 58.

Arbor novellis fulvo-puberulis; folia ampla, oblonga, petiolo 1-2 lin. longo puberulo suffulta, abrupte acuminata, basi acuta et subobliqua, chartacea, glabra v. subtus secus reticulationem laxam parce puberula; flores solitarii, axillares et oppositifolii, pedicellis ½ pollicaribus fulvo-pubescentibus unibracteatis; calyx corollaque appresse fulvo-pubescentes; sepala ovato-subulata, c. 2 lin. longa; petala exteriora duplo longiora, lanceolata, acuminata, interiora ¾-1 poll. longa, oblonga, obtusiuscula.—*Ava.*

2. Mitrephora vandæflora, Kurz in Journ. As. Soc. Beng., 1874, 57.

Arbor decidua, novellis ramulisque pubescentibus; folia oblonga v. ovato-oblonga ad elliptica, 5-6 poll. longa, petiolo brevi puberulo, basi rotundata v. acuta, chartacea v. subcoriacea, acuminata v. acuta, v. utrinque minute puberula v. supra nitida et subtus secus nervos minute puberula; flores plus quam poll. in diametro, pedicellis poll. longis sursum incrassatis fulvo-tomentosis sub calycis basi bracteâ semi-amplexicauli rotundatâ vestitis suffulti et vulgo 2-ni v. plures e pedunculis reductis lateralibus crassis squamatis erumpentes; sepala rotundata, dense fulvo-pubescentia; petala 3 exteriora linearioblonga, undulata, extus parce fulvo-pubescentia, flava v. flava et rubescenti-striata, interiora ungui brevi et lato, conniventia, extus puberula, secus margines tomentosa, flava, apice albo- et rubro-punctata.—*Pegu; Martabania.*

N. B. *Melodorum parviflorum*, Scheffer = *M. latifolium*, Hf. and Th.; *Melod. Bancanum*, ejusd. = *M. manubriatum*, Hf. and Th.

3. Capparis Sikkimensis, sp. nov.

Frutex scandens, habitu *C. Roxburghii*, novellis parce pubescentibus, mox glaber; folia elliptica ad elliptico-ovata, basi subacuta, obtusiuscula, petiolo gracili parce appresse pubescente ½-¾ poll. longo suffulta, 2-3 poll. longa, coriacea, glabra; flores mediocres, pedicellis poll. circiter longis appresse pubescentibus suffulti, umbellati; pedunculi 1-1¼ poll. longi, parce appresse pubescentes, compressiusculi, ex foliorum superiorum axillis erumpentes et sæpius in paniculam terminalem dispositi; sepala concavo-ovali-rotundata, minute puberula et secus margines hyalinos tomentella, ⅓ poll. longa; petala intus lanata, extus glabra; ovarium ovoideum, acutum, et gynophorum 1½-2 poll. longum glabra.—*Sikkim-Himalaya*, 4000-5000 ped. s. m.

4. Schima monticola, Kurz in Journ. As. Soc. Beng., 1874, 90.

Arbor glabra, gemmis sericeo-pubescentibus, ramulis parce lenticellatis; folia oblonga v. elliptico-oblonga, basi rotundata v. obtusa, 3-4 poll.

longa, petiolo ½-¾ pollicari lato suffulta, acuta v. subobtusa, grosse crenato-serrata, valde coriacea, supra nitida, glabra, reticulatione indistinctâ impressâ; capsulæ depresso-globosæ, pedunculo crasso lenticellato 1½ poll. longo suffultæ.—*Martabania.*

5. PTEROSPERMUM CINNAMOMEUM, Kurz in Journ. As. Soc. Beng., 1874, 120.

Arbor, novellis ferrugineo-tomentosis; folia oblique oblonga ad ovato-oblonga, basi uno latere inæquali-cordata v. rotundata, altero acuta, petiolo crasso 1-2 lin. longo tomentoso suffulta, 2½-5 lin. longa, acuminata v. cuspidata, chartacea, supra glabra et nitentia, subtus dense fulvo- v. cinnamomeo-raro canescenti- tomentosa; stipulæ subulatæ, usque ad poll. longæ, simplices v. frequentius basi appendice cucullatâ auctæ; flores magni, albi, pedunculis ½-1 poll. longis fulvo-floccoso-tomentosis suffulti, solitarii, axillares; bracteolæ subulatæ basi cucullato-appendiculatæ; sepala c. 1½ poll. longa v. paullo longiora, linearia, extus 3-nervia et fulvo-tomentosa, intus subglabra; filamenta et stylus glaber; ovarium dense fulvo-villosum; capsulæ oblongæ, obtuse 5-gonæ, utrinque attenuatæ, lignosæ, 2 poll. longæ, fugacissime ferrugineo- v. fulvo-tomentosæ.—*Martaban; Tenasserim.*

6. ELÆOCARPUS SIMPLEX, Kurz in Journ. As. Soc. Beng., 1874, 132.

Arbor gemmis parce sericeo-puberulis; folia oblonga v. oblongo-lanceolata, petiolo pollicari glabro geniculato-incrassato suffulta, basi obtusa, 5-6 poll. longa, obtusa v. obtusiuscule acuminata, chartacea, crenato-dentata, glabra; flores majusculi, pedicellis poll. longis v. longioribus glabris, in racemos laxos axillares sub anthesi ebracteatos foliis breviores dispositi; sepala c. 6 lin. longa, lineari-lanceolata, acuminata, glabra, intus secus marginem angustum velutina; petala æquilonga, lato-cuneata, vulgo bifida, lobis sectis et valde fimbriatis, extus parce sericea, intus basin versus sericea, villosa; antheræ glabræ; ovarium argenteo-tomentosum. *Tenasserim.*

7. ELÆOCARPUS LITTORALIS, T. and B. ap. Kurz in Journ. As. Soc. Beng., 1874, 132.

Arbor glabra; folia obovato-oblonga, in petiolum gracilem ½-1 poll. longum continuum attenuata, 3-5 poll. longa, repando-serrata, obtusa, valde coriacea, glabra, supra nitentia; flores majusculi, pedicellis pollicaribus parce puberis, in racemos axillares puberos foliis paullo brevioribus collecti; sepala lineari-lanceolata, 6-7 lin. longa, canescenti-velutina; petala æquilonga, cuneato-oblonga, extus dorso sericeo-pubescentia, secta et fimbriata; antheræ puberulæ; ovarium fulvo-villosum; drupæ c. pollicem longæ, oblongæ, læves, putamine valde lacunoso-tuberculato compressiusculo. *Tenasserim.*

8. E. HYGROPHILUS, Kurz in Journ. As. Soc. Beng, 1874, 133.

Arbor gemmis argenteo-sericeis; folia obovato- ad cuneato-oblonga, petiolo ¼-½ pollicari glabro geniculato-incrassato suffulta, basi attenuata, 2-3 poll. longa, obtusa v. rotundata, crenato-serrata, chartacea, glabra; flores parvi, pedicellis 2½-3 lin. longis parce argenteo-sericeis, racemos argenteo-sericeos glabrescentes axillares foliorum longitudine v. breviores efficientes; sepala 3 lin. longa, lanceolata, acuta, sericea, glabrescentia; petala paullo longiora, lato-cuneata, usque ad mediam partem fimbriata, glabra; antheræ puberulæ; ovarium sericeo-tomentosum.—*Pegu; Martaban; Tenasserim.*

N. B. *Elæocarpus Acronodia*, Mast. species est valde diversa et nequaquam cum *Acronodia punctata*, Bl. conjungenda. *E. punctatus*, Masters, *Parinarii* est species; *E. glabrescens*, Mast. = *E. Jackiana*, Wall. (*Monocera ferruginea*, Jack.); *E. pedunculatus*, Wall = *E. Palembanicus*, Miq.

9. MELIA BIRMANICA, nov. sp.

Arbor novellis canescenti v. flavescenti furfuraceo-tomentosis; folia bipinnata, petiolo longo et tereti, pinnis 5-3-paribus; foliola ovata v. ovato-lanceolata, basi rotundata v. acuta, sæpius sub-inæqualia, 1½-2 poll. longa, breviter acuminata, integra, petiolulis brevibus gracilibus vulgo puberulis suffulta; flores virescenti-albi, parviusculi, pedicellis brevissimis furfuraceo-tomentosi v. subsessiles, in paniculas flavescenti- v. canescenti-furfuraceo-tomentosas corymbiformes axillares folio breviores dispositi; calyx profunde 5-fidus, lobis oblongo-lanceolatis acutis farinaceo-puberulis; petala c. 3 lin. longa, extus velutina, intus dense puberula; tubus stamineus c. 2 lin. tantum longus, albus, intus pilosus et apice inter antheras valde lanata; drupæ globosæ v. subglobosæ, c. 1 poll. crassæ v. crassiores, flavescentes, læves, putamine obtuse 5-8-angulari et 5-8-loculari globoso.—*Martaban.*

10. SCHMIEDELIA CHARTACEA, nov. sp.

Frutex novellis appresse puberulis; folia uni-foliata, petiolo 1-1½ pollicari utrinque incrassato suffulta, oblonga ad oblongo-lanceolata, brevissime petiolulata, basi acuta, grosse et remote repando-serrata, ½-1¼ ped. longa, chartacea, acuminata, glabra; flores parvi, fasciculati, pedicellis capillaribus ¼-½ lin. longis suffulti et racemos graciles axillares folio breviores formantes; sepala ½ lin. longa, concavo-rotundata, parce ciliolata; baccæ solitariæ raro binæ, pisi majoris magnitudine, læves, coccineæ.—*Sikkim.*

N. B. Fructus *N. hypoleuci*, Ky. in diario hocce (1871, 50) ad *N. lappaceum* probabiliter referendi sunt; fructus veri *N. hypoleuci*, a me nuper in Martabania collecti, iis *Euphoriæ Litchi* simillimi.

11. ASPIDOPTERYS HELFERIANA, Kurz in Journ. As. Soc. Beng., 1874, 137.

Frutex scandens, novellis appresse fulvo-pubescentibus; folia orbiculari-ovata ad lato-obovalia, breviter cuspidata v. apiculata, petiolo ¼-½ pollicari pubescente glabrescente suffulta, 3-5 poll. longa, vulgo glauco-viridia; flores parvi, glabri, pedicellis c. 2 lin. longis glabris filiformibus, paniculam axillarem et terminalem laxam dum juvenilem ferrugineo-pubescentem mox glabrescentem formantes; petala c. 2 lin. longa; ovarium glaberrimum; gynobasis decidua; disci lobi vix rugosi; samaræ ovoideæ, pollicem circiter longæ, apice attenuato retusæ, hyalino-membranaceæ, pallide brunneæ, radiato-nervosæ, alato-cristatæ, glabræ.—*Tenasserim.*

12. INDIGOFERA DEBILIS, Grah. in Wall., Cat., 5466.

Herba annua v. perennis, 1½-2-pedalis, sparse appresse hirsuta; stipulæ lineari-subulatæ, 3-4 lin. longæ; folia impari-pinnata, subsessilia, 1-1½ poll. longa; foliola 1-2-juga cum impari longius petiolulato, alterna, rhomboideo-obovata ad sublanceolata, brevissime petiolulata, basi subcuneato-attenuata, obtusiuscula et mucronata v. acuta, ½-1 poll. longa, integra, membranacea, supra glabra, subtus tenuissime appresse pubescentia; flores minimi, brevissime pedicellati, bracteâ persistente subulatâ lineam longâ muniti, in racemum gracillimum parce pubescentem v. glabrum multiflorum axillarem folio multo longiorem digesti; calyx lin. longus, parce appresse pilosus, dentibus subulato-filiformibus; corolla paullo longior; legumina linearia, subcylindrica cum suturis pallide coloratis prominentibus, c. ½ poll. longa, oblique acuminata, brunnea, parce appresse hirsuta, 5-6-sperma; semina cylindrico-oblonga, utrinque truncata.—*I. viscosæ* affinis.—*Ava.*

13. DESMODIUM (PHYLLODIUM) GRANDE, nov. sp.

Frutex erectus, ramulis molliter fulvo-tomentellis; stipulæ et stipellæ strictæ, breves, lineares, subulato-acuminatæ; folia pinnato-3 v. raro 1-foliata, petiolo ½-1 pollicari fulvo-tomentoso suffulta; foliola 3-5 poll. longa, breviter petiolulata, ovata v. sub-ovata, longiuscule et obtusiuscule acuminata cum mucrone, integra, chartacea, supra puberula, subtus molliter sub-fulvo-pubescentia; flores...in racemos foliatos axillares et terminales digesti et paniculam terminalem efformantes; rhachis fulvo-tomentosa; folia floralia bifoliolata, petiolo 2-3 lin. longo tomentoso in aristam longam desinente suffulta; foliola oblique ovalia ad suborbicularia, retusa v. rotundata cum mucrone, puberula, pollicem circiter longa; legumina 2 3 articulata, tomentoso-pubescentia, iis *D. pulchelli* duplo majora.—*D. vestito* affine.—*Ava.*

N. B. Flores *Lespedezæ pinetorum* nec cyanei nec rosei, ut in diario hocce 1873, 231 descripti, sed flavescentes carinâ apice rosellâ.

14. PUERARIA BRACHYCARPA, Kurz in Journ. As. Soc. Beng., 1873, 232.

Herba perennis diffusa v. volubilis, ramis acute angularibus 2-4-pedalibus, secus angulos retrorse appresse hirsuta; stipulæ lanceolatæ, acuminatæ, parvæ; folia pinnato-3-foliolata, petiolo secus angulos retrorse appresse pubescente 1-1½ pollicari suffulta; foliola ovata ad ovato-lanceolata (lateralia valde obliqua), breviter petiolulata, acuminata, 1½-2½ poll. longa, chartacea, utrinque parce appresse hirsuta; flores desunt, racemos solitarios v. raro geminos strictos canescenti-pubescentes axillares formantes; bracteæ minutæ, subulatæ, persistentes; pedicelli sub fructu lin. circiter longi; calyx appresse pubescens, lineam fere longus, lobis acutis; legumina linearioblonga, torosa, compressa, pollicaria v. paullo longiora, 2½ lin. lata, pallida, parce appresse hirsutula, 5-6-sperma; semina transverse ovoidea, 2 lin. lata, olivacea.—*Pegu.*

N. B. *Phaseolus lucens*, Wall., *Ph. dolichoides*, Roxb., et *Ph. grandis*, Wall. apud Bentham Pl. Jungh. I 239 in adnot. endocarpio secedente dein semina arcte includente (quamobrem beat. Roxburghius semina arillata descripsit) gaudent et a me ad *Canavaliam* reducuntur.

15. VIGNA BRACHYCARPA, nov. sp.

Herba perennis, volubilis, habitu *V. vexillatæ*, caulibus filiformibus 3-4 ped. longis parce hirsutis; stipulæ peltato-lineari-oblongæ, 3-4 lin. longæ; folia pinnato-3-foliolata, petiolo gracili 1-1½ poll. longo hirsuto suffulta; foliola deltoideo-lanceolata ad linearia (lateralia vulgo inæqualia), breviter petiolulata, acuminata, 1-2 poll. longa, chartacea, utrinque parce hirsuta; flores minores, flavi, brevissime pedicellati, pauci, pedunculum gracilem parce hirsutum axillarem petiolis longiorem v. æquilongum terminantes; calyx amplus, 1½ lin. tantum altus, glaber, dentibus latis, acutis, brevibus; corolla c. ½ poll. longa; legumina lineari-oblonga, stricta, utrinque obtusiuscula, usque ad pollicem longa, 2½ lin. lata, compressa, nigrescentia, sparse sed longe hirsuta, polysperma; semina crassa, sub-4-gona, lin. lata et longa, opaca, nigra.—Arracan.

N. B. *Dolichos Gangeticus*, Roxb., generi *Vignæ* adnumerandus est.

16. DUNBARIA PODOCARPA, nov. sp.

Herba perennis, volubilis, flavescenti puberula; folia pinnato-3-foliolata, petiolo flavescenti pubescenti ½-1 pollicari instructa; foliola lato-ovata (lateralia obliqua), petiolulis brevibus pubescentibus suffulta, acuminata, utrinque (imprimis subtus) puberula, subtus pallida, lutescentia, aurantiaco- v. luteo-resinosa; flores mediocres, pedicellis 2 lin. longis pubescentibus vulgo bini pedunculo brevissimo appresse fulvo-pubescenti axillari instructi; calyx c. 3 lin. altus, appresse flavo-pubescens, dentibus lanceolatis: ovarium stipitatum, appresse pubescens; legumina stipite 3-5 lin. longo suffulta, lineari-

lanceolata, plana et vix torosa, acuminata, 1½-2 poll. longa, 4 lin. lata, puberula, pleiosperma ; semina latiora quam longa, compressa, c. 2 lin. lata, nigra.—*Tenasserim.*

N. B. *Phaseolus fuscus*, Wall. *Dunbariis* est adnumerandus.

17. Atylosia candicans, (*Cajanus ? candicans*, Wall., Cat., 5576 et 5567).

Herba perennis, erecta, molliter albido-tomentella ; folia pinnato-3-foliolata, petiolo 1-1½ pollicari pubescenti instructa ; foliola lato-ovata (lateralia obliqua), obtusiuscula v. obtusiuscule acuminata, 1-2 poll. longa, basi subcordata, utrinque pubescentia, subtus albida ; flores mediocres, pedicellis 2-3-lin. longis albo-pubescentibus, racemum albo-tomentosum axillarem folio breviorem efformantes ; calyx fere 5 lin. longus, albo-pilosus, usque ad basin fere 5-fidus, lobis linearibus, acuminatis ; corolla calycis lobis paullo longior ; legumina transverse impressa et torosa, dense pilosa.—*Ava.*

N. B. *Dunbaria calycina*, Miq., *Atylosiæ* est species. *Dolichos tomentosus*, Roth (*D. bracteatus*, Wall., Cat., 554) *Rhynchosiæ* a me adnumeratur.

18. Flemingia sericans, nov. sp. (*F. nana*, Wall., Cat., 5747. B. non Roxb.).

Herba perennis, 2-2½-pedalis, caulibus angulatis canescenti-pubescentibus ; folia digitato-3-foliolata, petiolo crasso 3-angulari anguste alato ¾-1 poll. longo suffulta ; foliola magis minusve rhomboideo-ovato-lanceolata (lateralia obliqua), breviter petiolulata, obtusiuscula cum mucrone v. acuta, 2-3 poll. longa, utrinque molliter puberula, supra velutina, subtus sparse nigro-resinoso-punctata ; flores parvi, purpurascentes, pedicellis lin. longis v. subsessiles, racemos breviores v. longiores argenteo-sericeos solitarios v. fasciculatos axillares efficientes ; bracteæ parvæ, ovatæ, sericeæ, valde deciduæ ; calyx argenteo-sericeus, 2½-3 lin. longus, lobis lineari-subulatis, infimo longissimo ; corolla glabra, paullo longior ; legumina ovoideo-oblonga, puberula, vix sparse coccineo-resinoso-punctata, vulgo 2-sperma.—*Prome ; Martaban.*

19. Mucuna biplicata, Teysman et Binnendyk, Cat. Hort. Bog., 1866, 261.

Legumen oblongum, sessile, c. 3-4 poll. longum, 1-3-spermum, utrinque bialatum, transverse plicatum, plicis duplici serie digestis apice horizontali chartaceo explanatis.—*Insula Borneo.*—Legumina vetusta tantum exstant, sed species distinctissima haud cum *M. anguina*, Wall. (= *M. monosperma*, Roxb.) conjungenda (cf Schoffer Obs. phyt. 91).

20. MUCUNA MOLLISSIMA, Teysman and Binnendyk, Cat. Hort. Bog., 1866, 261.

Frutex scandens, molliter pubescens; folia pinnatim 3-foliolata, petiolo piloso 1½-2½ pollicari suffulta; foliola rhomboideo-ovata, (lateralia valde obliqua), petiolulis 1-2 lin. longis pubescentibus instructa, obtusa cum mucrone v. acutiuscula, membranacea, 2-3 poll. longa, molliter pubescentia; stipellæ subulatæ, lin. longæ; flores mediocres, pedicellis 4-5 lin. longis pubescentibus, racemum longiuscule (1-2 poll. longum) pedunculatum pubescentem folio breviorem axillarem formantes; calyx velutinus cum setis fulvis urentibus interspersus, amplus, ½ poll. in diametro, dentibus 3 inferioribus triangulari-acutis, superioribus 2 connatis bi-denticulatis; corolla poll. longa, vexillo obovato-oblongo, breviter unguiculato alis longitudine æquans, carina paullo longior; legumina oblonga, 3-4 poll. longa, 5-6-sperma, brevissime stipitata, subvelutina et setis rigidis fulvis fragilibus deciduis obtecta, utrinque in alas 2 undulatas expansa, transverse et valde oblique simpliciter plicata, plicis magis minusve revolutis; semina lato-elliptica, plana, ½ circiter longa, nigra.—*Molluccos, Halmahaira*, in horto Bogoriensi culta.

21. PTEROCARPUS MACROCARPUS, nov. sp.

Arbor, novellis fulvo-pubescentibus, folia impari-pinnata, ½-¾ pedes longa, rachi fulvo-puberula; foliola ovata ad oblonga, 3-5-juga, alterna, petiolulo 1-2 lin. longo ferrugineo-pubescente suffulta, breviter et obtusiuscule acuminata, mucronata, 1½-2½ longa, integra, coriacea, novella subtus fulvo-pubescentia, glabrescentia et secus nervos puberula; flores mediocres, flavi, pedicellis 3-4 lin. longis fulvo-pubescentibus; in racemos simplices fulvo-pubescentes axillares digesti; calyx dense ferrugineo-velutinus, c. 3 lin. longus, basi sub-oblique attenuatus; corolla ultra 3 lin. longa, petalis undulato-crispatis; stamina diadelphia; ovarium villosum; legumina canescentia v. fulvescenti-velutina, irregulari-orbicularia, alis subplicatis 1½-2 poll. in diametro, basi inæquali sinuato-rotundata, acumine styloso minuto supra sinu basali protrudente.—*Martaban*; *Tenasserim*.

22. COMBRETUM DASYSTACHYUM, nov. sp.

Frutex scandens, habitu *C. Chinensis* sed partes omnes magis minusve pubescentes; folia opposita v. sæpius ternata, elliptico- ad obovato-oblonga, petiolo brevissimo crasso fulvo- v. ferrugineo-pubescente suffulta, acuminata, integra, 3-4 poll. longa, membranacea, supra sparse albo-puncticulata, subtus (secus nervos dense) pubescentia; flores parvi, albidi, sessiles, spicas satis robustas strictas patentes v. decurvas dense ferrugineo-tomentosas axillares folio breviores efformantes; calyx tubuloso-campanulatus; limbus 4-lobatus, intus dense fulvo-hispidus; petala lato-oblonga, cuneato-unguiculata, calycis

lobis longiora ; ovarium mox glabrescens, obsolete 4-gonum ; fructus oblongi, 1½ poll. fere longi, pollicem lati, glabri, 4-alati, alis chartaceis semi-oblongis nucis diametro multo latioribus.—*Pegu ; Martaban.—C. Chinensi*, Roxb. (*C. Griffithii*, Heurck and Muell-Arg. Obs. Bot. Plant. nov. 231) valde affine.

23. COMBRETUM PYRIFOLIUM, (*Pentaptera pyrifolia*, Wall., Cat., 3985 non Presl.).

Frutex scandens, habitu *C. ovalifolii*, novellis ferrugineo-puberulis ; folia parva, ovalia ad lato-oblonga et suborbicularia, opposita v. alterna, petiolo 3-4 lin. longo gracili suffulta, obtusa v. subretusa et mucronata, integra, chartacea, 1½-2 poll. longa, glabra, supra puncticulata ; flores .. ; spicæ puberulæ, solitariæ v. in paniculas graciles axillares v. breves terminales digestæ ; fructus parviusculi, ½-¾ poll. longi, glabri, 5-4-alati, alis chartaceis semi-ovalibus nucis diametro latioribus.—*Ava*.

24. COMBRETUM QUADRANGULARE, nov. sp.

Frutex subscandens, argenteo-lepidotus et punctatus, ramulis acute 4-angularibus ; folia opposita v. raro alterna, parva, obovato-cuneata v. raro ovata, petiolo brevi gracili lepidoto suffulta, vulgo obtusa v. subretusa et mucronata, integra, 1½-3 poll. longa, chartacea, utrinque (subtus sub-dense) argenteo-lepidota et punctata ; flores parvi, albi ?, bracteâ subulatâ fugacissimâ substructi, spicas solitarias v. binas simplices dense lepidotas axillares folio breviores formantes ; calyx infundibuliformis, vix lin. longus, dense lepidotus, limbo 4-dentato intus dense fulvo-villoso ; petala calycis dentibus 3-angularibus paullo longiora, obovata ; stamina exserta ; fructus parvi, ½-¾ poll. longi et lati, suborbiculares, dense argenteo-lepidoti, 4-alati, alis chartaceis, nucis diametro latioribus.—*Tenasserim ; Siam.*

N. B. *C. platyphyllum*, v. Heurck et Muell-Arg. Obs. Bot. Plant. Nov. 242 = *C. extensum*, Roxb. ; *Anogeissus phillyreæfolia*, v. Heurck et Muell. Arg. l. c. 219. = *A. acuminatæ* varietas.

25. LONICERA LEIANTHA, nov. sp.

Frutex glaber ; folia ovata ad ovato-oblonga, basi acutâ decurrentia, petiolo 3-4 lin. longo suffulta, obtusiuscula, subcoriacea, 2-3 poll. longa, lævia, glabra, supra nitida ; flores magni, 2½-2 poll. longi, glaberrimi, sessiles, bini v. solitarii pedunculo crasso stricto 3-4 lin. longo axillari suffulti ; calycis tubus 3 lin. fere longus, lævis, limbo ample-infundibuliformi lin. fere longo leviter 4-dentato.—*Avæ montes.—L. longifloræ*, DC. affinis.

26. RUBIA SIKKIMENSIS, nov. sp.

Herba perennis *R. cordifoliæ* arcte affinis, aculeolato-scabra, caulibus anguste alato-angulatis ; folia sessilia v. subsessilia, 4na v. sursum 3na

verticillata, lanceolata ad elliptico-lanceolata, 3-5-nervia, acuminata, basi obtusa, imprimis secus nervos et margines retrorse aculeolata, 2-4 poll. longa, chartacea ; flores minuti, pedicellis semilineam longis suffulti, cymosuli, paniculas brachiatas axillares in paniculam majorem terminalem collectas formantes ; baccæ didymæ v. globosæ, pisi minimi magnitudine, glabræ, succulentæ.—*Sikkim-Himalaya.*

N. B.—*Psilobium capillare*, Kurz in Journ. As. Soc. Beng., 1872, 313 = *Morindopsis capillaris.*

27. Arnebia Tibetana, nov. sp.

Herba perennis magis minusve ramosa usque ad semipedem alta, appresse hispida (pilis rigidis albidis e tuberculis albis ortis) ; folia obovato-linearia ad lineari-oblonga et linearia, radicalia in petiolum longiorem v. breviorem decurrentia, caulina sessilia, obtusa v. obtusiuscula, crasse membranacea, appresse albo-hispida ½-1½ poll. longa ; flores verosimiliter flavi, sessiles, in spicas longiores v. breviores circinnatas terminales et laterales congesti et sæpius in paniculam spuriam albo-hirsutam collecti ; bracteæ calyce breviores, albo-hispidæ, lineares, obtusæ ; calyx albo-setosus, usque ad basin fere 5-partitus, segmentis 2 lin. circiter longis v. longioribus anguste linearibus ; corolla infundibuliformi-hypocraterimorpha, c. ½ poll. longa, lobis brevibus rotundatis ; antheræ fauci inserta ; nuces griseæ, 3-angulari-ovatæ, acutæ, tuberculatæ, lineam fere longæ, dorso obtuse carinatæ. *Tibetia occidentalis*, 12000-16000 p. s. m.

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Enumeration of Burmese Palms.—*By* S. Kurz.

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(With Plates XII—XXXI.)

In working up my Burmese palms, I find that a few of them are new. I now propose to describe these and to give at the same time an enumeration of all the species that have hitherto been found in Burma, adding also a conspectus so as to facilitate their identification. The rattans, however, are in such a state of confusion that little can be done until the material for description becomes more complete and the almost inextricable synonymy of the described species has been properly cleared up.

I have not paid special attention to palms in the field, but a few remarks on variation may not be out of place here.

The size of the palms is often enough variable and, amongst the many examples, I shall mention only *Phoenix paludosa*, the stem of which varies in height from only 2 or 3 ft. up to 15 to 25 ft. Sobolification is a character of little value in my eyes. I look upon it rather as an idiosyncrasy, and, therefore, not even as a sufficient character on which to establish a variety. No doubt in very many species this character has become general and constant, but atavisms are not unfrequent. We know, for example, cases in which the common betel-nut palm has made as many as 7 shoots, and similar examples are not wanting (especially in *Phoenix*, *Cocos*, *Arenga*, *Euterpe*). *Areca triandra* has simple and soboliferous trunks with all intermediate

states, and I have, therefore, unhesitatingly connected with it *A. laxa*, a species that differs in no structural points. *Caryota sobolifera* is another example wherein simple-stemmed and soboliferous plants may occasionally be found in the Burmese jungles not a dozen yards from one another. Species based upon such distinctions, if not also accompanied by structural differences, are in my opinion untenable, and grouping palm-species after such a character is simply misleading.

Again, the armature in *Calamus* would appear to me to be also subject to variation within certain limits. It certainly is often very different according to the age of the rattan itself, or accordingly as the sheaths come from the lower or upper parts of the plant. On the other hand, the *Calami* (including *Dæmonorops*) offer so many valuable characters in their spathes and spathules, nature of seeds, loræ and flagellæ, and, finally, in the scales and stamens, that we may confidently look forward to a sound and natural classification of the rattans so soon as the numerous book-species, often based upon incomplete pieces only, shall have been got rid of. The difference in the scales of the fruits of *Calamus* in different stages of growth is so far as possible illustrated in the present paper. The indument of the inflorescences and their spathes seems to afford valuable characters, especially to herbarium-botanists. The colour, however, of the same varies greatly in the same species, as for example in *A. gracilis*, in which some individuals have yellowish-white and bright scarlet *spadices*, while others have them greenish-purple.

Burmese palms are still very incompletely known, especially the rattans. While the distributional area of the leiocarpous palms is greater than one might have expected, that of the rattans is singularly restricted and limited. Thus I have been unable, in spite of all the pains I have taken, to identify several of my Burmese rattans with any of the 100 species or thereabouts already published. Only the more light-loving species, such as *C. Gurubu*, *fasciculatus*, etc., have a wider distribution.

Burma and the Andamans contribute each a new type of *Calamus* in *C. tigrinus* and *C. Andamanicus*, which have the scales of their fruits furnished with fringed appendages as long as or longer than the scale itself.

I have, in the present paper, endeavoured to supplement my descriptions by the addition of figures, for it is irksome to recognise palms from descriptions only; a figure, moreover, allows considerably shortening of the description itself. The small size of the Society's Journal has, however, compelled me to introduce only the most important parts of these bulky plants.

SYNOPSIS OF THE GENERA AND SPECIES OF BURMESE PALMS.

Subfam. I. PALMÆ GENUINÆ.—Fruits not imbricate scaly, but smooth or variously rough or tubercled. Seeds without arillus. Usually erect, very rarely armed palms.

Trib. I. Nipinæ.—*Perianth of females reduced to a few scales. Ovaries* 3, *apocarpous. Male flowers in separate spadices surrounding the central female flower-head. Leaves pinnate.*

Nipa, *Rumph.*—Spathes many, sheathing, persistent. Female flowers on a central globular torus, surrounded by the male spadices. Male perianth 6-parted, complete, valvate in bud. Stamens united by threes. Drupes woody, angular-turbinate, collected into a large dense head. Albumen equable, hollow in centre. Soboliferous almost stemless palms.

N. fruticans, Wurmb. Only species.

Trib. II. Pinnatæ.—*Perianth complete in both sexes. Leaves pinnate twice pinnate or pinnatisect, rarely almost entire. Erect palms.*

*** Spathes 1 or 2, more or less boat- or spindle-shaped.**

§ *Cocoinæ.*—Spathes 1 or 2, spindle-shaped or clavate. Ovary syncarpous. Putamen at base 3-porous. Leaves simply pinnate. (Probably better reduced again to a section of *Arecineæ.*)

Cocos, *L.*—Monoecious on the same spadix. Petals in females imbricate-convolute in bud. Ovary syncarpous, 3-celled, only one cell ovule-bearing. Drupe large, woody, containing a single one-seeded hard putamen. Albumen equable. Large simple-stemmed palms.

Cocos nucifera, L. Only species.

§ § *Arecineæ.*—Spathes 1 or 2, boat-shaped, caducous. Ovary syncarpous. Putamen not perforated. Pinnæ neither fascicled nor erose-toothed.

Areca, *L.*—Flowers monoecious, their bases immersed in the cavities of the nude spadix. Stamens 3, 6, or numerous. Petals valvate in bud.

Albumen ruminate. Simple-stemmed or soboliferous palms. Pinnæ irregularly united into broader or narrower segments, rarely all connate in a 2-cleft blade.

Species.

Subg. 1. *Areca*, L.—Stamens 6 or 3. Stigmas 3. Female flowers lateral between the ramifications, rarely axillary. Spadix often twice ramified, the ultimate ramifications usually more or less filiform and covered by male flowers only.

× Stamens 6. Female flowers without bract.

Simple-stemmed, glabrous; drupes as large as a hen's egg, ...*A. Catechu*, L.

× × Stamens 3. Female flowers without bract.

Glabrous, simple-stemmed or soboliferous, ...*A. triandra*, Roxb.

Subg. 2. *Pinanga*, Bl.—Stamens numerous. Stigma 1. Female flowers in grooved series. Spadix simply ramified, or rarely undivided.

× Flowers distichous.

Cæspitose; spadix branched; sheaths, etc., slightly scurvy,...*A. costata.*

× × Flowers tristichous.

Simple-stemmed; spadix slender, ramified or simple; sheaths, etc., scurvy, ...*A. gracilis*, Roxb.

× × × Flowers 5—6-stichous.

Simple-stemmed; sheaths, etc., scurvy; spadix simple, fleshy, as thick as the finger, ...*A. hexasticha*, Kurz.

§ § § *Phoeniceæ.*—Spathes 1 or 2, boat-shaped, persistent. Ovary apocarpous, consisting of 3 distinct carpels. Pinnæ often fascicled.

PHOENIX, *L.*—Dioecious. Corolla in males valvate, in females imbricate in bud. Drupes sappy, solitary. Albumen equable. Simple-stemmed or stoloniferous palms, sometimes stemless. The lower pinnæ reduced to spines.

Species.

* Spathes smooth; flowers supported by a small subulate bract.

Stemless; petioles rather long and slender, spiny-armed, ...*P. acaulis*, Roxb.

* * Spathes covered with a brown scurf; flowers without a bract.

Simple-stemmed, robust; petioles very short and dilated, spiny-armed; drupes about an inch long,.....*P. sylvestris*, Roxb.

Soboliferous, slender; petioles long and slender, spiny-armed; drupes about ½ an inch long, ...*P. paludosa*, Roxb.

*** * Spathes several, tubular or sheathing. Ovary syncarpous.**

§ § § § *Caryoteæ.*—Spathes several, tubular or sheathing, persistent. Pinnæ of the leaves often fascicled, jagged or erose-toothed.

ARENGA, *Lab.*—Flowers monoecious in different spadices. Petals of both sexes valvate in bud. Stamens indefinite. Ovary 3-celled. Drupe depressed-3-angular, rather dry, 3-seeded. Albumen equable. Simple-stemmed rarely soboliferous palms. Leaves simply pinnate, the pinnæ linear, at base auricled at one or both sides.

Arenga saccharifera, Lab. Only species.

WALLICHIA, *Roxb.*—Flowers monoecious in different spadices, rarely dioecious. Petals in both sexes valvate in bud. Stamens often definite. Ovary 2-celled. Drupe sappy, usually 2-seeded. Albumen equable. Often stemless low palms. Leaves simply pinnate, the segments wedge-shaped.

Species.

Spadices smaller, the male spikes almost filiform; male flowers yellowish; calyx tubular, about a line long, ... *W. caryotoides*, Roxb.

Spadices very ample, the male spikes thick and rigid; male flowers purplish or green; calyx minute, cup-shaped, only about ⅓ lin. long, ... *W. disticha*, T. And.

As preceding, but the male calyx tubular, nearly a line long, ... *W. densiflora*, Mart.

CARYOTA, *L.*—Flowers monoecious on the same spadix. Stamens indefinite. Petals in males valvate, in females imbricate in bud. Ovary 1- or 2-celled. Drupe 1- or 2-seeded, sappy. Albumen ruminate. Simple-stemmed or soboliferous palms. Leaves bipinnate.

Species.

Simple-stemmed; male petals about ½ inch long by 3 to 4 lin. broad, ... *C. urens*, L.

Usually soboliferous; male petals about 4 lin. long and only 1½ lin. broad; anthers mucronate or emarginate, ... *C. sobolifera*, Wall.

TRIB. III. FLABELLATÆ.—*Leaves fan-shaped. Perianth complete in both sexes. Erect palms.*

§ *Borassineæ.*—Ovary syncarpous, 2—4-celled, with as many ovules. Drupes 2—4-celled, with as many seeds.

Borassus, *L.*—Spathes several, incomplete. Male spadix catkin-shaped. Corolla imbricate in bud. Drupe large, fleshy-fibrous, 3-seeded. Seeds pomaceous, with a pore at their apex. Lofty palms. Pinnæ connate, and forming a blade.

Borassus flabelliformis, L. Only species.

§ § *Coryphinæ.*—Ovary apocarpous, consisting of 3 free or at apex united carpels (or only the styles united), usually only one of the carpels coming to perfection.

Licuala, *Rumph.*—Inflorescence axillary. Flowers hermaphrodite, solitary or by 2 or 3 together. Corolla 3-parted. Stamens perigynous, the filaments inserted at the throat of the corolla and united into a ring. Drupe sappy. Usually small simple-stemmed or tufted palms. Pinnæ all free to the base, or by 2 or several united into broader or narrower flabellate segments.

Species.

× Flowers large. Leaves peltately flabellate.

Calyx about ¼ to ⅓ inch long, ...*L. peltata*, Roxb.

× × Flowers small. Calyx not above 2 lin. long. Leaves palmately flabellate.

Trunk 4 to 8 ft. long; petioles aculeate, bordered along their whole length; calyx about a line long, ...*L. paludosa*, Griff.

Almost stemless; petioles unarmed at the upper third of their length; calyx 1½ lin. long, ...*L. longipes*, Griff.

Chamærops, *L.*—Inflorescence axillary. Flowers polygamous, several together. Corolla 3-parted. Stamens hypogynous. Drupe sappy. Albumen with a longitudinal furrow. Simple-stemmed or tufted palms. Pinnæ all connate and forming a blade.

Chamærops Khasyana, Griff. Only species.

Livistona, *R. Br.*—Inflorescence axillary. Flowers hermaphrodite, clustered. Corolla 3-parted. Stamens perigynous. Drupe sappy. Albumen with a cavity filled up with the intruding integuments. Embryo dorsal. Erect palms perennially flowering. Pinnæ connate and forming a blade.

Livistona speciosa, Kurz. Only species.

Corypha, *L.*—Inflorescence terminal. Secondary and tertiary spathes many. Flowers hermaphrodite, clustered. Corolla consisting of 3 free petals. Stamens hypogynous. Drupe corticate. Albumen hollow in centre or solid. Embryo apical. Lofty or rarely stemless palms, flowering once only and then dying off. Pinnæ connate and forming a blade.

Species.

* Simple-stemmed often lofty palms. Petioles comparatively short.

Trunk annular or almost even; drupes the size of a wood-apple, ...*C. umbraculifera*, L.

Trunk marked by the spiral scars of the fallen spirally arranged leaves; drupes the size of a cherry, ...*C. Gebanga*, Bl.

* * Stemless.

Petioles 18 to 25 ft. long; drupes the size of a cherry, *C. macropoda*, Kz.

Subfam. II. CALAMEÆ.—Fruits covered by retrorsely imbricate scales. Seeds often spuriously arillate. Usually armed climbers, rarely erect or unarmed.

Trib. I. Flabellatæ.—Leaves fan-shaped. Nearly all American.

Trib. II. Pinnatæ.—Leaves pinnate.

* Flowers spirally arranged, forming a more or less dense cylindrical catkin-like spike.

Korthalsia, *Bl.*—Spikes villous-bracteoled or the bracteoles glabrous, forming elongate panicles. Spathes tubular. Albumen ruminate. Scandent palms, sparingly armed.

Species.

Spines on the petioles almost straight, 3 to 4 lin. long; drupes obovoid, ½ inch long, ...*K. scaphigera*, Mart.

Spines on the petioles short, reflexed; drupes turbinate (globular), the size of a small pea, ...*K. laciniosa*, Mart.

Zalacca, *Rumph.*—Spikes villous-bracteoled, forming elongate panicles. Spathes elongate, cleft to the base. Seeds arillate. Albumen equable. Stemless or almost stemless erect palms, more or less armed.

Zalacca Wallichiana, Mart. Only species.

* * Flowers distichous (very rarely spuriously unilateral).

Calamus, *L.*—Flowers usually sessile, solitary in the spathules, or rarely in a short curved spikelet exserted from the spathule, forming elongate

more or less pendulous panicles. Spathes tubular or flattened out from a tubular base, persistent. Spathules cymbiform or tubular. Seeds arillate. Albumen equable, but often pitted or erose on the outside. Scandent, rarely erect rattan-palms, more or less fearfully armed.

Species.

* Drupes sessile, *i. e.*, the perianth more or less spreading and adhering to the base of the fruit. Spathules of the spikes much imbricated, the exserted part cymbiform, shorter than broad, more or less truncate.

O Scales of fruit without a conspicuous appendage.

Δ Pinnæ equidistant. No leaf-tendrils.

Erect, tufted; pinnæ white beneath. No tendrils whatever, ...*C. arborescens*, Griff.

Erect, tufted; leaves uniformily green, without (but the sheaths and spadices with) tendrils, ...*C. erectus*, Roxb.

Δ Δ Pinnæ fascicled or interruptedly approximate.

Young stems, etc., whitish powdery; leaves without tendrils; pinnæ interruptedly fascicled; drupes globular, straw-coloured, ...*C. fasciculatus*, Roxb.

Glabrous; leaves tendril-bearing; pinnæ broad, alternately approximate; drupes oblong, brown, ...*C. latifolius*, Roxb.

O O Scales of fruits produced into a fringed appendage as long or longer than the crustaceous scale itself.

Leaves tendril-bearing; inflorescence without tendril; drupes ½ inch long, uniformily brown, ...*C. Andamanicus*, Kurz.

Leaves without tendrils; inflorescence with tendrils; drupes an inch long or somewhat longer, dark and pale brown variegated, *C. tigrinus*, Kurz.

* * Drupes seated on the erect indurated thick pedicel-like perianth. Spathules usually long-exserted and tubular, rarely cymbiform and imbricate, usually not truncate.

O Spathules imbricate, broader than long, truncate.

Leaves without tendrils; pinnæ equidistant; drupes globular, ½ inch thick, straw-coloured, ...*C. tenuis*, Roxb.

O O Spathules exserted and rather elongate.

× Spathes with a short acute limb only.

Leaves not tendril-bearing; pinnæ interruptedly-approximate; drupes ellipsoid, straw-coloured, nearly an inch long, ...*C. gracilis*, Roxb.

Leaves not tendril-bearing; pinnæ equidistant, narrow; spathes green, very thin, compressed-tubular, almost unarmed, ...*C. Helferianus*, Kurz.

Leaves tendril-bearing; pinnæ distant, alternately approximate; male flowers in recurved small spikelets or fascicles exserted from the spathules, ...*C. paradoxus*, Kurz.

× × Lower spathes expanded into a flat elongate limb, tubular at the short base only.

Leaves not tendril-bearing; pinnæ narrow, equidistant; drupes globular, the size of a pea, the scales straw-coloured with blackish-brown borders, ...*C. Guruba*, Ham.

DÆMONOROPS, *Bl.*—Flowers usually pedicelled, naked or nearly so. Spathes cleft to the base, deciduous, the outer one boat-shaped. Spathules incomplete, reduced to bracteoles. Spadix erect, stiff, never tendril-bearing. Albumen usually ruminate. Scandent rattan-palms, more or less fearfully armed.

Species.

* Spathes unarmed or nearly so.

Leaves not tendril-bearing; pinnæ interruptedly-approximate, white beneath, ...*D. hypoleucus*, Kurz.

* * Spathes (at least the outermost one) much armed with thorns or spines.

Leaves uniformly green; sheaths and spathes outside fearfully armed with flat glossy black spines; drupes globular, the size of a cherry, ...*D. grandis*, Griff.

PLECTOCOMIA, *Bl.*—Flowers in small naked racemes or spikes, hidden by the imbricate distichous secondary spathes, the latter forming long tail-shaped one-sided panicled pendulous catkins. Spathes many, tubular. Drupes retrorsely hispid. Albumen equable. Scandent often lofty rattan-palms, more or less armed.

Plectocomia macrostachya, Kurz. Only species

ENUMERATION OF THE SPECIES.

NIPA, *Rumph.*

1. N. FRUTICANS, *Wurmb. in Verh. Bat. Genootsch., I*, 349; *Lab. in Mém. Mus., V*, 297, *t.* 21-22; *Roxb, Fl. Ind., III*, 650; *Mart., Palm.*, 305, *t.* 108, 171-172; *Bl. Rumph. III*, 76, *t.* 105, 164—165; *Griff., Not. Monocot.*, 168, *t.* 244-247; *Miq., Fl. Ind. Bat., III*, 150.

HAB. Common along the estuaries of the rivers, and in tidal forests all along the shores, from Chittagong down to Tenasserim and the Andamans.

Dane of the Burmese.

Cocos, *L.*

2. C. NUCIFERA, *L., Fl. Zeyl.*, 391; *Roxb., Corom. Pl., I*, 52, *t.* 37, *et Fl. Ind., III*, 614; *Mart., Palm.*, 123, *t.* 62-63 *et t.* 88, *f.* 3-6; *Miq., Fl. Ind. Bat., III*, 64.

HAB. Generally cultivated all over Burma, more especially within the influence of the sea, and also wild along the sandy beaches of the Cocos islands. Fl. C. S., Fr. H. S.

Ung is the Burmese name of the cocos-palm.

ARECA, *L.*

3. A. CATECHU, *L., sp. pl.*, 1189; *Roxb., Corom. Pl., I*, 54, *t.* 75 *et Fl. Ind., III*, 615; *Hayne, Arzney Gew., VII, t.* 35; *Mart., Palm.*, 169 *et* 311, *t.* 182 *et t.* 149, *f.* 4, *t. Z, X, f.* 11.; *Bl. Rumph., II*, 65, *t.* 102 *A, et t.* 104; *Miq., Fl. Ind. Bat., III*, 8; *Griff., Ind. Palm.*, 147, *et in Macl. Calc. Journ., V*, 450; *Scheff., Group. d. Arec.*, 9.

HAB. Frequently cultivated by the Burmans and Karens, especially in Martaban and Tenasserim.

Kunti is the Burmese name.

4. A. TRIANDRA, *Roxb., Fl. Ind., III*, 617; *Griff., Ind. Palm.*, 148, *t.* 230, *A, et in Macl. Calc. Journ., V*, 451; *Mart., Palm.*, 171, *t.* 149, *f.* 1-3; *Scheff., Group. d. Arec.*, 16. (*A. laxa, Ham. in Mem. Wern. Soc., V*, 309; *Griff., Ind. Palm.*, 149, *et in Macl. Calc. Journ., V*, 452; *Scheff., Group. Arec.*, 17; *A. pumila, Bl. Rumph., II*, 71, *t.* 99 *et* 102, *non Mart. nec Griff., Scheff. Group. d' Arec.*, 15).

HAB. Not unfrequent in the evergreen tropical forests from Martaban down to Tenasserim and the Andamans; also in Chittagong. Fl. H. and R. S.; Fr. the following year.

Tau Kunti (wild betel-palm) is the Burmese name of this as of all other wild species of *Areca;* the Andamanese call it *abaradah.*

5. A. COSTATA, (*Pinanga costata, Bl. Rumph., II*, 80, *t.* 109; *Pinanga Kuhlii, Bl. Rumph., II*, 82, *t. III, Scheff., Group. d. Arec.*, 34; *Seaforthia Kuhlii, Mart., Palm.*, 185, *t.* 6, *t. Z, f.* 4 *et* 5).

HAB. In the evergreen tropical forests of the Andamans, around Mount Harriet, and probably elsewhere. Fr. June.

I have changed the specific name according to a rule laid down in De Candolle's 'Laws of Botanical Nomenclature.' Dr. Scheffer and a very few others object to this rule, but to me it appears a sound one inasmuch as it rigorously compels an author to adopt a name which otherwise would be altered either out of pedantry or personal feelings, for illustrations of which Dutch literature especially furnishes examples enough. The rule is exact and therefore truly scientific, admitting of no excep-

tion but in cases of absolute absurdity*: it prescribes with almost mathematical precision the ultimate change. Why, for example, should we call *Guatteria pallida*, Bl., at present *Marsypopetalum ceratosanthes*, Scheff., and not *M. pallidum?* or why should the well-known *Fimbristylis diphylla*, with its pageful of synonyms, be rechristened *F. polymorpha*, Boeck.? The objection raised on account of increase of names *absque necessitate* is a feeble one, and cannot counterbalance the advantages of a strict rule against arbitrary acts.

6. A. GRACILIS, *Roxb., Fl. Ind., III*, 619; *Griff., Ind. Palm.*, 154, *t.* 232, *A—C, et in Macl. Calc. Journ., V*, 459.

HAB. Frequent in the evergreen tropical forests, especially in marshy places, from Chittagong, Pegu, and Martaban down to Tenasserim. Fl. H. and R. S,; Fr. the following year.

Dr. Scheffer identifies this species with Blume's *Pinanga patula; P. patula*, however, has distichous flowers, quite different fruits, and smooth sheaths and spadices. Again, *A. disticha*, Roxb. (of which *Ptychosperma simplicifrons*, Miq. is an exact synonym), which has a hispid spadix and scurvy sheaths and spathes, is also reduced to his *Pinanga patula*—a course in which I cannot follow him.

7. A. HEXASTICHA, *n. sp.*, Pl. XII.

A slender simple-stemmed gregarious palm, 20 to 30 feet high, the stem 3 to 4 in. in girth, the sheaths, etc. thinly scaly-rough, soon turning glabrous; leaves 3 to 5 feet long, pinnate with the end-pinnæ confluent, on a short (3 to 4 in. long) scaly-rough petiole broadly sheathing at the base; pinnæ linear, somewhat falcate, 1 to 1½ feet long, alternate, 2- to 3-ribbed and many-nerved, the lower ones acuminate, the upper and terminal ones crenate-lobed and ending in as many bluntish and shortly 2-lobed lobes as there are ribs: flowers sessile, spirally arranged in 5, higher up in 6, grooved rows along the simple reflexed spike up to a foot long, the rachis as thick as the finger, fleshy; female perianth (in young fruit) very much like that of *A. gracilis*, the sepals and petals almost conform, broad-oval, blunt or bluntish, about a line long or a little longer; staminodes apparently

* If in such cases a rule were to be established to the effect that a species thus changed in name should be called after the author who first named and described it, the cases of doubt would be reduced to a minimum. Dr. Mueller Arg. has given some additional rules in his "Nomenclatoric fragments" defending his harpagean principles adopted in the 15th vol. of De Candolle's Prodromus, but I think that few, if any, right-minded men would refuse to adopt a MS. name, if they have knowledge of the same or if they have the plant, authentically named, at their disposal. On the other side, I fully agree that MS. names, the plants of which are inaccessible to an author, even if published but not characterized, are truly valueless "nomina chartacea," and as such reducible to species described at a later date. No one will ever persuade me to spend a few thousand rupees on a journey to Europe for the purpose of unearthing MS. names!

none; unripe fruits fibrous-fleshy, smooth, spindle-shaped, and narrowed at apex.

HAB. In marshy places of the evergreen tropical forests of the southern parts of the Pegu Yomah, as for example between Kyauzoo and Kya Eng (Pazwoondoung-valley).

PHOENIX, *L.*

8. PH. ACAULIS, *Roxb*, *Hort. Beng*, 73 *et Fl. Ind.*, *III*, 783; *Griff. in Macl. Calc. Journ.*, *V*, 345 *et Ind. Palm.*, 137, *t.* 128; *Mart.*, *Palm.*, *t.* 136.

HAB. Frequent in the Eng-forests all over Pegu, Prome, and Martaban. Fl. March—Apr.; Fr. May—June.

This species is called in Burma *Thenboung* like all others of the genus.

9. PH. SYLVESTRIS, *Roxb.*, *Hort. Beng.*, 73 *et Fl. Ind.*, *III*, 787; *Griff. in Macl. Calc. Journ.*, *V*, 350 *et Ind. Palm.*, 141, *t.* 228; *A. Mart.*, *Palm.*, *t.* 136.

HAB. Chittagong, cultivated only; said to be also cultivated in Ava. Fl. begin of H. S.; Fr. C. S.

As indeed Griffith remarks, *Ph. dactylifera*, L., differs hardly, and possibly solely by larger fruits. The fact that *Ph. dactylifera* will not succeed in the moister parts of India, may be an idiosyncrasy acquired by long cultivation in arid districts.

10. PH. PALUDOSA, *Roxb.*, *Hort. Beng.*, 73 *et Fl. Ind.*, *III*, 789; *Griff. in Macl. Calc. Journ.*, *V*, 353 *and Ind. Palm.*, 144, *t.* 229, *A—B. (Ph. Siamensis, Miq., Palm. Archip. Ind.*, 14).

HAB. Common in the tidal forests all over Burma from Chittagong down to Upper Tenasserim and the Andamans. Fl. March—Apr.; Fr. June—Decb.

ARENGA, *Labill.*

11. A. SACCHARIFERA, *Lab.*, *Mém. l.' Inst.*, *IV*, 209.; *Mart.*, *Palm.*, 191, *t.* 108 *et t.* 161, *f.* 4, *t. Z*, *IV*, *f.* 11, *XVII*, *f.* 1; *Miq.*, *Fl. Ind. Bat.*, *III*, 35; *Griff. in Macl. Calc. Journ.*, *V*, 472 *and Ind. Palm.*, 164, *t.* 233, *A.—(Sagguerus Rumphii, Roxb.*, *Fl. Ind.*, *III*, 626).

HAB. Frequent in the evergreen tropical forests of Martaban and Tenasserim, also occasionally in those of the eastern slopes of the Pegu Yomah. Fl. all the year; Fr. the following year.

Toung ong is the Burmese name. Griffith has been much blamed for having cut down the numerous areng-palms in the Calcutta Botanical Garden, and for having thus deprived the garden of one of its "ornaments." This censure must remain a matter of opinion, for I believe that few will be found who would detect any beauty in them, but many would

rather concur with Rumphius, who compared the palm to a "ragged dirty drunken fellow."

Besides its well-known value for toddy, sugar, and fibre, this palm is especially adapted for the support of orchids, ferns, and other epiphytical plants, for which purpose it is highly recommendable to horticulturists in tropical climates.

WALLICHIA, *Roxb.*

12. W. CARYOTOIDES, *Roxb., Corom. Pl., III,* 91, *t.* 295; *Miq., Fl. Ind. Bat., III,* 34. (*Wrightia caryotoides, Roxb., Fl. Ind., III,* 621; *Harina caryotoides, Ham. in Wern Soc., V,* 317; *Griff. in Mucl. Calc. Journ., V,* 485 *and Ind. Palm.,* 174, *t.* 237; *W. densiflora, Hook., Bot. Mag., t.* 4584, *vix Mart. nec Griff.*).

HAB. In the evergreen tropical and damp hill-forests of Martaban and Tenasserim; also in the hills of eastern Ava and Chittagong, up to 4000 feet elevation. Fl. R. S.; Fr. the following year.

Zanong is the Burmese name of this as also of the other species of the genus.

13. W. DENSIFLORA, *Mart., Palm., ed. I,* 189 *and suppl.,* 190. (*W. oblongifolia, Griff. in Macl. Calc. Journ., V,* 486, *and Ind. Palm.,* 175, *t.* 237, *A—C*).

HAB. Not frequent in the moister upper mixed and tropical evergreen forests of Arracan, apparently always on siliceous sandstone; also Chittagong. Fl. Apr.

13*b*. W. DISTICHA, *T. And. in Journ. Linn. Soc. Lond., XI,* 6.

HAB. Not unfrequent in the moister upper mixed forests of the eastern slopes of the Pegu Yomah, and on the spurs of the Kambala-toung. Fl. Apr.

The Burmese plant differs chiefly by much longer (1½-2 ft. long) pinnæ, and may possibly form a distinct species. It is also a much lower palm.

CARYOTA, *L.*

14. C. URENS, *L., Fl. Zeyl.,* 187; *Roxb., Fl. Ind., III,* 625; *Mart., Palm.,* 193, *t.* 107-108, 168 *and t. V, f.* 1-3 *and* 11; *Miq., Fl. Ind. Bat., III,* 41; *Griff. in Macl. Calc. Journ., V,* 478. *and Ind. Palm.,* 169.

HAB. Frequent in the upper mixed forests of the Pegu Yomah and Ava. Fl. Sept.

Burmese call this, as also the other species, *minbo.*

15. C. SOBOLIFERA, *Wall. in Mart. Palm.,* 194, *t.* 107, *f.* 2 *? Miq., Fl. Ind. Bat., III,* 41 ? *Griff. in Macl. Calc. Journ., V,* 481 *and Ind. Palm.,* 171, *t.* 236 (*simple-stemmed*) ? (*C. Cummingii, Lodd. ex Mart., Palm., III,* 159 ? *Bot. Mag., t.* 5762; *C. Griffithii, Beccari in Giorn. Ital.*).

Hab. Frequent in the evergreen tropical forests from Arracan down to the Andamans, and from Martaban down to Tenasserim. Fl. Fr. C. and H. S.

I entertain little doubt but that the *Caryota* so plentiful in the Burmese jungles is Loureiro's *C. mitis*, the more so as the same plant occurs also in Siam.

Borassus, *L.*

16. B. flabelliformis, *L.*, *Mus. Cliff.*, 13; *Roxb.*, *Corom. Pl.*, *I*, 50, *t.* 71-72, *and Fl. Ind.*, *III*, 790; *Mart.*, *Palm.*, 219, *t.* 108, 121, 162; *Miq.*, *Fl. Ind. Bat.*, *III*, 45. (*B. sp.*, *Griff.*, *Not. Monoc.*, 167).

Hab. Frequently cultivated all over Burma, more especially, however, in Ava and Prome; along the sandy sea coast sometimes growing like wild, but also in the dry Prome-district the palm is freely springing up in jungles. Fl. March—Apr.; Fr. Close of rains.

Htan is the Burmese name of the palmyra.

Licuala, *Rumph.*

17. L. peltata, *Roxb.*, *Fl. Ind.*, *II*, 179; *Mart.*, *Palm.*, 284, *t.* 134 *et* 162; *Griff.*, *Palms*, 120, *t.* 222 *and in Macl. Calc. Journ.*, *V*, 324.

Hab. Frequent in the evergreen tropical forests all over Burma from Chittagong, Pegu, and Martaban down to Tenasserim and the Andamans. Fl. begin of C. S.; Fr. H. S.

Zaloon of the Burmese; the Andamanese call it *gobol*.

18. L. paludosa, *Griff. in Mart. Palm.*, 318; *Macl. Calc. Journ.*, 323 *and Ind. Palm.*, 118, *t.* 221, *A—C*.

Hab. Frequent in the tidal forests and in marine swamps along the coast of the Andamans. Fr. Apr. May.

19. L. longipes, *Griff. in Mart. Palm.*, 318 *and in Macl. Calc. Journ.*, *V*, 330 *and Ind. Palm.*, 125, *t.* 224, *A—B*.

Hab. Tenasserim, forests near Lainear, to the south of Mergui (Griff.). Fl. nearly the whole year.

Chamærops, *L.*

20. Ch. Khasyana, *Griff. in Macl. Calc. Journ.*, *V*, 341 *and Ind. Palm.*, 134, *t.* 227, *A—B*.

Hab. Not unfrequent in the drier hill and pine forests of Martaban, and probably also in the Ava hills, at 4000 to 6500 feet elevation.

It remains to be shewn how this species differs from *Ch. Martiana*, *Wall.*, which is said to have yellow lepidote fruits.

Livistona, *R. Br.*

21. L. speciosa, *n. sp.*, Pls. XIII and XIV.

A lofty simple-stemmed palm, 50 to 70 feet high, the trunk 40 to 60 feet

long by 3 to 5 feet girth, all parts glabrous; leaves palmately flabellate, about 6 to 7 feet across, plaited, the petiole up to an inch broad at base, armed with strong sharp falcately curved flattish blackish spines, the lower spines up to half an inch long and longer by 3 to 4 lines broad at base; the sheaths dividing into netted fibres; pinnæ all (the lateral ones up to half of their length, the central ones higher up) connate in a blade, linear, sharply 2-cleft at apex, the ribs compressed, prominent, the veins rather visible and transverse; flowers small, solitary or by 2 on a nipple-shaped very short and thick pedicel, racemose-spicate, forming a much branched smooth panicle-shaped, 2 to 4 feet long spadix, furnished at the base and along the primary axes with large fuscous quite smooth spathes; sepals and petals hardly a line long; drupes elliptically obovoid, ½ to nearly an inch long, dark blue, smooth, 1-seeded, seated on the short thick indurated perianth jointed with the nipple- or disk-shaped very short peduncle.

Hab. Frequent in the evergreen tropical forests of the eastern and southern slopes of the Pegu Yomah; Upper Tenasserim (Brandis). Fr. March—Apr.

Called *tau-htan* by the Burmese. Very similar to *L. Jenkinsiana*, Griff., but loftier, and differing chiefly by the smooth (not scurvy) spathes and in shape of fruits. The armature seems more developed in my species.

Corypha, *L.*

22. C. umbraculifera, *L., Hort. Cliff.*, 482; *Mart., Palm.*, 232, *t.* 108 *and* 127, *f.* 2. *Roxb., Fl. Ind., II*, 177; *Miq., Fl. Ind. Bat., III*, 49, *ecl. syn.* (*C. Talliera, Roxb., Corom. Pl., III*, 51, *t.* 255-256 *and Fl. Ind., II*, 174.; *Griff., Ind. Palm.*, 114, *t.* 220, *E, and F and in Macl. Calc. Journ., V*, 317.)

Hab. Frequently seen cultivated in villages all over Burma. Fl. H. S.; Fr. the following year.

Pae is the Burmese name of this and all the other species of *Corypha*.

23. C. Gebanga *Bl. Rumph., II*, 59, *t.* 97-98 *and* 105. (*C. elata, Roxb., Fl. Ind., II*, 176; *Mart., Palm.*, 233; *Griff. in Macl. Calc. Journ., V*, 314 *and Ind. Palm.*, 112, *t.* 220, *D.*).

Hab. Only occasionally seen in Burmese villages, as for example around Tounghoo. Fl. H. S.; Fr. the following year.

24. C. macropoda, *Kurz in Andam. Rep., ed.* 2., 50.—Pl. XV.

A gigantic stemless palm, 30 to 40 ft. high, all parts glabrous; leaves very ample, palmately flabellate, from 12 to 20 ft. across, the petiole towards the base as thick as the arm, straight and slender, from 18 to 25 ft. long, along the polished margin armed with strong incurved compressed glossy black spines; pinnæ united to near the middle into a blade, 6 to 10 ft. long, linear, 2-lobed and bluntish at apex, the ribs 4-cornered; inflorescence

and flowers unknown; drupes the size of a cherry, globular, with one or two small abortive ovaries at their base, smooth, olive-brown, 1-seeded.

Hab. In the bamboo jungles of Termoklee island, western side of South Andaman, on chloritic rocks.

Called *dondah* by the Andamanese. I have not seen the palm in flower, but judge it to be stemless from having failed to detect any indication of a stem in the numerous full-grown specimens I met with accompanied by seedling-plants, which latter had their roots so deeply seated in the rocky ground that I did not reach them after digging to a depth of more than 2 feet.

Korthalsia, *Bl.*

25. K. scaphigera, *Mart. Palm.*, 211.—(*Calamosagus scaphiger, Griff., Ind. Palm.*, 30, *t.* 184 *A. young plant; Calamosagus wallichiæfolius, Griff. in Macl. Calc. Journ., V*, 24 *and Ind. Palm.*, 29, *t.* 184 *sub nom. C. harinæfolius.*)

Pls. XX, A, and XXI.

A large scandent rattan palm, the canes up to half an inch in diameter, the young leaves beneath fugaceously white-tomentose; leaves pinnate, 2 to 4 ft. long, the rachis sparingly armed with short simple sharp retrorse spines and terminating in a long recurved-thorny tendril, the petiole ½ to 2 ft. long, irregularly beset with thin sharp rather straight spines 2 to 4 lin. long, the sheaths minutely brown-scurvy (in young plants sparingly prickly) dissolving along their margins into fibres embracing the stem; pinnæ at base contracted into a compressed petiolule, alternately somewhat approximated, plaited, broadly rhomboid-ovate, the upper ones cuneate-rhomboid, acuminate, from about the middle irregularly and sharply erose-toothed (the teeth formed by the more or less subulate-excurrent veinlets), many-nerved, 4 to 7 in. long, the terminal segment much broader; spadices long and pendulous, terminal, the tubular spathes (in fruit) smooth, brown; catkins very compact and terete, on a short sheathed peduncle, densely tawny tomentose, 3 to 4 in. long, about 4 lin. thick; bracts very broad, rounded or almost acute, smooth, a little longer than the densely villous bracteoles; female calyx rigid, more than ½ lin. long, fibrous-ciliate; corolla nearly 2 lin. long, very rigid-coriaceous, deeply 3-cleft, the tube very short; drupes obovoid, mucronate, ½ inch long, retrorsely imbricate-scaled, 1-seeded; scales rigid, trapezoid-ovate, longitudinally impressed, greenish, towards the apex brownish, bordered by a pale brown broadly lacerate narrow bluntish membrane.

Hab. Common all over the Andamans, especially in the evergreen tropical forests. Fr. H. S.

Called *bordah* by the aborigines. On the Andamans occurs another species of the habit of the preceding but with the sheaths densely

covered by sharp spines. Unfortunately, I neglected to collect specimens from the sterile plants, which alone I met with.

26. K. LACINIOSA, *Mart., Palm.*, 211. (*Calamosagus laciniosus, Griff. in Macl. Calc. Journ., V*, 23 *c. tab. and Ind. Palm.*, 27, *t.* 183 *and t.* 216, *f.* 2. (*K. flagellaris, Miq., Suppl. Fl. Sumat.*, 591).

HAB. Tenasserim, from the Salween down to Mergui. Fr. March.

I have no clear idea of this species, which would differ from the former by the shape of the drupes. The armature of the sheaths and nature of the dentation of the leaves are, as I find, somewhat variable. *C. ochriger*, Griff. (*Ind. Palm.*, *t.* 216, *f.* 1), of which authentic specimens exist in H. B. C., is *K. rigida*, Bl. exactly. Miquel reduces his *K. flagellaris* to *K. angusta*, Bl. I have not seen the latter species, but if his conclusion be correct, then *K. laciniosa* and *K. angusta* must fall together.

ZALACCA, *Rumph.*

27. Z. WALLICHIANA, *Mart., Palm.*, 201, *t.* 118-119 *and* 136; *Miq., Fl. Ind. Bat., III*, 80, *quoad descr.* (*Z. edulis, Wall., Pl. As. rar., III*, 14, *t.* 222-224 *sub nom. Z. Rumphii; Griff. in Macl. Calc. Journ., V*, 7. *p. p. and Ind. Palm.*, 10, *t.* 175 *? Calamus Zalacca, Roxb., Hort. Beng.*, 72 *and Fl. Ind., III*, 773).

HAB. Frequent in the evergreen tropical forests all over Pegu and Martaban down to Tenasserim. Fl. C. S.; Fr. June, July.

Yeinga or *yengan Khyen* Burmese.

Wallich and Griffith reduce this species to *Z. edulis*, Rwdt. but it seems to differ by much smaller fruits, sessile catkins, and the leaves being green on both sides.

PLECTOCOMIA, *Bl.*

28. P. MACROSTACHYA, *n. sp.*, Pls. XVI and XVII.

A lofty climber, all parts glabrous; leaves pinnate, the petiole and rachis spiny, the spines straight, up to ½ inch long; pinnæ (median ones) somewhat approximate by pairs, linear-lanceolate, ½ to 2 ft. long, long-acuminate, white-powdery beneath, 3-ribbed (2 of the ribs marginal), coriaceous, but rather flaccid; spadices not seen; lateral spikes 4 to 5 ft. long, about 2 in. thick, somewhat compressed, pendulous; spathules distichous, rhomboid-obovoid, acute, 1½ to nearly 2 in. long, coriaceous, brown, blackish towards the upper borders, glabrous; male spikelets as long as the spathules, rusty-scurvy-strigillose, the rachis rather strong, shortly and distichously branched; female flowers not seen; male flowers: calyx wide, cup-shaped, about a line deep, shortly 3-toothed, the teeth acute, bordered especially in their sinuses by a dense brown woolly tomentum; petals rigid, falcate, lanceolate, sharply acuminate, about ⅓ inch long or somewhat longer, sulcate outside; stamens 6; drupes unknown.

Hab. Tenasserim, Bithoko range, at 3000 ft. elevation (Dr. Brandis).

Allied to *P. elongata*, Bl., but easily distinguished by the doubly larger flowers and the larger and more densely imbricate spathules.

Dæmonorops, *Bl.*

29. D. hypoleucus, *n. sp.*, Pls. XVIII and XIX.

Apparently a slender scandent rattan palm, the sheathed stems as thick as the finger, the canes as thick as a common quill; leaves interruptedly pinnate, 2 to 3 ft. long, without tendril, the petioles short, often saccate at base, armed with shorter and longer conical thorns on the back and along the margins sparingly intermixed with somewhat recurved straight short spines, the reddish rachis similarly but more sparingly armed, upwards simply recurved spiny; the sheaths armed like the petiole but very densely so with unequally long straight sharp spines up to an inch long or longer towards the mouth, in front sending out a long prickly recurved-thorny whip-like tendril; pinnæ ½ to ¾ ft. long, alternately and interruptedly approximate by twos on each side, oblong-lanceolate, acuminate, bristly ciliate towards the apex, white beneath, many-nerved; female spadix small, only ½ ft. long, on a slender peduncle (about an inch long) thorny on both margins; spathes unarmed or occasionally with a minute prickle on the midrib, smooth, lanceolate-oblong, slit almost to the base; spathules shortly tubular with an acuminate limb, small and distant; female flowers minute, about a line long, distichous; calyx shortly 3-lobed, ½ lin. long; corolla twice as long with a short tube, the lobes linear-lanceolate, acute; male flowers and fruits unknown. (*Calamus hypoleucus*, Kz. olim).

Hab. Tenasserim, Thounggyeen (Dr. Brandis). Fl. March.

30. D. grandis, *Griff. in Mart., Palm., A—C and t.* 216, 327, *t.* 175, *f. ix, t. Z, xii, f.* 11; *Miq, Fl. Ind. Bat., III*, 88. (*Calamus grandis, Griff. in Macl. Calc. Journ., V*, 84 *and Ind. Palms*, 91, *t.* 210, *A—C and t.* 216, *f.* 3.)

Hab. In the evergreen tropical forests of Rutland-island, Andamans. Fr. May.

There grow two or three other species of *Dæmonorops* in Chittagong, Arracan, and the other provinces of Burma, but these I know from insufficient MS. figures only or from having merely seen them growing.

N. B. *D. Hystrix*, Griff. is certainly identical with *D. oblongus*, Bl.; the spines in the latter become quite as long as in the former.

Calamus, *L.*

31. C. arborescens, *Griff. in Macl. Calc. Journ., V*, 33 *and Ind. Palms*, 46, *t.* 188, *A—C*; *Miq., Fl. Ind. Bat., III*, 113.—Pl. XXII.

The insertion of the stamens would appear to vary somewhat. In my specimens they are inserted at the base of the corolla and free; filaments not infracted, shorter than the anthers. Drupes obovoid-oblong, ½-¾ inch long, apiculate, supported by the coriaceous somewhat enlarged perianth, 1-seeded; scales uniformly brown, with a very narrow whitish minutely erose border, cordate-trapezoid, rounded at apex, almost biconvex from a longitudinal central furrow.

HAB. Frequent in marshy beds of choungs, in the moister and evergreen tropical forests of Pegu, on sandstone. Fr. C. S.

Called *thanoung* by the Burmans.

This is the only Burmese species which may truly be called arboreous, having no tendrils whatever. All others are furnished with such tendrils, either terminating their leaves (*flagellæ*), in which case the inflorescences are axillary (actually they spring from near the base of the opposite leaf) and destitute of spadical tendrils (*loræ*); or the leaves are destitute of them, and the tendrils arise near the apex of the sheath of the opposite leaf, in which case the inflorescences are leaf-opposed and tendril-bearing (or rather the *loræ* grow out into inflorescences). In classification, these several relations have no great value, as an arrangement based upon such characters removes nearly allied species far from each other, as for example *C. Andamanicus* from *C. tigrinus*.

32. C. ERECTUS, *Roxb., Fl. Ind., III*, 774; *Griff. in Macl. Calc. Journ., V*, 35. (*C. longisetus, Griff. in Macl. Calc. Journ., V*, 36 *and Ind. Palms*, 44, *t.* 189, *A—B; Miq., Fl. Ind. Bat., III*, 114; *C. macrocarpus, Griff., Ind. Palms*, 40, *t.* 186, *A, f.* 1-2; *Mart., Palm.*, 333, *t.* 176, *f. X*).

Pls. XXIII and XXIV.

A low erect tufted palm, looking like *Zalacca*, 12 to 18 feet high, all parts glabrous; leaves 18 to 12 feet long, pinnate, without tendril, the petiole as also the sheaths armed with seriate greenish or fuscous flat sharp spines up to an inch long, the rachis similarly armed, but the spines gradually becoming fewer in number towards the apex; pinnæ by 5 or fewer alternately approximate, elongate-linear-lanceolate, glossy, green on both sides, many-nerved and transversely veined, acuminate, spinulose-ciliate, 1½ to 2 feet long by 1½ to 2 inches broad, the midrib beneath armed with distant capillary bristles; spadices elongate, branched, terminating in a whip-like recurved-thorny tendril; spathes somewhat compressed, linear-tubular, acuminate, armed with half-whorls of flat upwardly and downwardly directed spines up to ¼ inch long, the partial spathes unarmed, shaped and rupturing like those of *Zalacca*; spathules imbricate, cymbiform, almost truncate, glabrescent, fibrous-dissolving at their longer extremity; flowers distichous; calyx a little longer than the bract, shortly 3-toothed; corolla nearly 3 times longer, the tube narrow, nearly as long as the calyx, the lobes linear-oblong; sta-

mens in males free, the filaments broad, not infracted, shorter than the anther; drupes more than an inch long, ovoid-oblong, apiculate, glossy, brown, 1-seeded; scales imbricate, cordate-trapezoid, fuscous, towards the base paler coloured, almost biconvex with a rather broad longitudinal central furrow, bluntish, the margins not bordered and almost entire; seed oblong, somewhat compressed, the albumen foraminate-erose, surrounded by a resinous crust.

HAB. Evergreen tropical forests of Chittagong and Pegu. Fr. C. S.

According to Roxburgh, the species is called in Chittagong *Sungotta*, but specimens collected there by Dr. Thomson bear the name *rong*—the name by which it goes in Sikkim also. The Burmese call it *theing*.

33. C. FASCICULATUS, *Roxb.*, *Fl. Ind.*, *III*, 779; *Griff. in Macl. Calc. Journ.*, *V*, 52 *and Ind. Palms*, 62, *t.* 195, *A—B* (*excl. infl. in B*) *and t.* 190, *A*, *f.* 2; *Miq.*, *Fl. Ind. Bat.*, *III*, 127; *Mart.*, *Palm.*, 210 *and* 238, *t.* 116, *f. IV and VI.*—Pl. XXVII, B.

HAB. Frequent in the mixed deciduous forests, especially in the lower ones, all over Burma, from Ava and Chittagong down to Tenasserim and the Andamans. Fl. Sept. Octob.; Fr. Apr. May.

Called *Kane ga* in Burma.

It often happens that the fruits in this species become monstrous, as shewn in the plate.

34. C. LATIFOLIUS, *Roxb.*, *Fl. Ind.*, *III*, 775; *Griff. in Macl. Calc. Journ.*, *V*, 60 *and Ind. Palms*, 68, *t.* 198. (*C. palustris*, *Griff. in Macl. Calc. Journ.*, *V*, 61 *and Ind. Palms*, 72, *t.* 199? *Miq.*, *Fl. Ind. Bat.*, *III*, 131?).—Pl. XXXI, A.

An extensive scandent rattan palm, all parts glabrous, the sheathed stems 2 to 3 in. diameter, the canes up to an inch thick; leaves 8 to 12 feet long, pinnate, terminating in a long whip-like retrorse-thorned tendril, the short petiole armed with a double or single row of short more or less sharp spines hollowed-out at inner base, saccate at base (the sac unarmed or sparingly and shortly prickly), the sheaths quite green, beset with a few excavate thorn-like protuberances or seriate large excavate flat sharp spines or occasionally quite or nearly quite unarmed (on the same plant), sometimes the spines short flat and black; the rachis armed with fascicled or simple upwardly recurved strong thorns; pinnæ alternate, broad-lanceolate, the median ones alternately approximate by twos, 1 to 2 ft. long by 3 to 5 in. broad, towards the shortly acuminate apex bristly ciliate, many-nerved and transversely veined, uniformly green; spadix bifariously decompound, axillary, elongate, drooping; spathes tubular, with an obliquely truncate acuminate limb, glabrous, sparingly recurved-thorny, the partial spathes conform, but not so small and less armed; spathules cymbiform, the outer margin acuminate-produced, glabrous; male flowers greenish-yellow; ovary-rudiment small, 3-lobed; drupes ellipsoid-oblong, rather glossy, apiculate,

about ½ inch long, supported by the persistent rigid perianth; scales trapezoid, bluntish, slightly biconvex, with a faint longitudinal furrow, pale brown, with a narrow blackish brown margin; seeds almost semi-convex, grooved and irregularly wrinkled.

HAB. In the evergreen tropical forests all over Burma from Chittagong, Pegu, and Martaban down to Tenasserim and the Andaman islands. Fr. Apr. May.

This is the *yamata* of the Burmans. According to Roxburgh, its name in Chittagong is *Kora bet.*

35. C. ANDAMANICUS, *n. sp.*, Pls. XXVII, A and XXVIII.

A lofty scandent rattan palm, the sheathed stems as thick as the arm, the canes up to an inch in diameter, all parts almost glabrous; leaves pinnate, terminating in a whip-like recurved-thorny tendril, 6 to 8 ft. long, the petioles saccate at base, armed with short blackish thin thorns arising from tubercle-like swellings and intermixed with a few long black spines; the reddish brown sheaths covered with numerous obliquely placed seriate whorls of capillary black spines, which soon break off and leave only their bases, towards the fugaceously greyish-tomentose base furnished with reflexed broader flat black spines up to nearly an inch long and forming stronger combs; the rachis more or less depressed 5-gonous, armed beneath with reflexed paired or ternary thorns, towards the petiole also distantly short thorned along the margins; pinnæ solitary, alternate, equidistant, 2 to 2½ ft. long and up to an inch broad, linear, subulate-acuminate, along the margins and on the three principal nerves beneath distantly capillary-spiny, transversely veined, uniformly green; spadix axillary, ample, decompound, nodding; spathes somewhat compressed-tubular, armed with strong short reflexed solitary to ternary black thorns, otherwise apparently glabrous; the partial ones unarmed, tubular and slit on one side, rather abruptly acuminate, glabrous; spathules tubular-cymbiform, closely imbricated, truncate, glabrous; flowers...; drupes distichous, numerous, supported by the somewhat enlarged perianth, elliptically-ovoid, acuminate, uniformly brown, about ½ inch long; scales rhomboid, crustaceous, glossy, chestnut-brown-bordered, otherwise greenish, rather flat and without furrow, at apex prolonged into a lanceolate pale brown opaque acute ciliolate membranous appendage longer than the scale itself; seed semi-convex, grooved; albumen equable.

HAB. Common in the forests all over the Andamans.

Chowdah of the Andamanese.

36. C. TIGRINUS, *n. sp*, Pls. XXV and XXVI.

A large scandent rattan, all parts glabrous, the canes up to an inch in thickness; leaves pinnate, 4—8 ft. long, without tendril; the sheaths fearfully armed with whorls and half-whorls of broad flat sharp glossy fuscous or black spines (an inch long) variously intermixed with shorter or thinner

ones, sending out from their front a long similarly armed whip-like tendril the thorns of which are connate and those further up recurved; the petiole and lower parts of rachis similarly but less densely armed not only on the back but also along its margins; pinnæ linear, the lower ones by 2 or 3 approximate, alternate or nearly so, 1½ to 2 ft. long, many-nerved and transversely veined, acuminate, spinulose-ciliate, green on both sides, the midrib above and usually also the lateral nerves beneath distantly capillary-spiny; the 2 terminal pinnæ more or less connate, deeply 2-cleft; spadix ample, decompound, nodding, tendril-bearing; spathes compressed linear-tubular, densely black-spiny; the partial spathes unarmed, tubular and much lacerating at apex; spathules tubular-cymbiform, densely imbricate, truncate, minutely brown scurvy, the one side more produced and often lacerating; flowers...; drupes ovoid-oblong, acuminate, about an inch long, black and brown variegated, 1-seeded, supported by the scarcely enlarged perianth; scales much imbricated, trapezoid, not furrowed on the crustaceous glossy pale brown rather flat back, rather broadly black-bordered and produced into a large pale-brown minutely lacerate membranous rather acute appendage; seed oblong, broadly and longitudinally ribbed.

Hab. Common in the evergreen tropical forests from the eastern slopes of the Pegu Yomah and Martaban down to Tenasserim and the Andamans. Fr. H. S.

Called *lémé* in Burma. The Andamanese name is *umdah*.

37. C. tenuis, *Roxb., Fl. Ind., III*, 780; *Griff. in Macl. Calc. Journ., V*, 45 *and Ind. Palms*, 57, *t.* 193, *A—C*; *Mart., Palm.*, 335, *t.* 176, *f. II, t. Z, XVIII, f. XXIV and XXV*; *Miq., Fl. Ind. Bat., III*, 118.

Pl. XXXI, B.

The drupes of this species are almost ellipsoid-globular, seated on the pedicel-shaped indurated perianth, apiculate, nearly ½ inch long, straw-coloured; scales rhomboid, uniformly straw-coloured with a narrow whitish border, acute, almost flat, with a distinct longitudinal furrow.

Hab. Chittagong (Roxb., etc.); also Pegu (according to Martius). Fl. R. S; Fr. Apr.

According to Roxburgh, it is called *bandhari bet* in Chittagong; specimens from there in H. B. C. are marked with the native name *golob bet*.

38. C. gracilis, *Roxb., Fl. Ind., III*, 781; *Griff. in Macl. Calc. Journ., V*, 54 *and Ind. Palms*, 64, *t.* 196—Pl. XXXI, C.

Drupes ¾ inch long, elliptical to elliptically globular, apiculate, supported by the indurated stalk-like perianth, straw-coloured; scales trapezoid, bluntish, straw-coloured with a very narrow brownish margin, slightly biconvex with a very deep longitudinal furrow; seed irregularly wrinkled.

Hab. Forests of Chittagong (Roxb.). Fr. March.

According to Roxburgh, called *Mapoori bet* in Chittagong.

39. C. Helferianus, *n. sp.*

Evidently a slender scandent rattan somewhat of the habit of *C. viminalis*, all parts glabrous; leaves pinnate, without tendril, the rachis thin, 3-gonous, along the convex back sparingly armed with small recurved solitary thorns; pinnæ narrow-linear, alternately approximated by 2 to 4, long, acuminate, 6 to 8 in. long, towards the apex bristly ciliate, along the 2 lateral nerves above bristly and slightly so also along the midrib beneath; spadix elongate, very slender, glabrous; spathes elongate-linear-tubular, compressed, green, sparingly recurved thorny along the edges, the upper ones unarmed, the limb linear-acuminate, erect; the partial spathes shorter and truncate; spathules minute, cymbiform, remote; male flowers distichous, about 1½ lin. long; calyx cupular, shortly 3-toothed; corolla more than twice as long as the calyx, 3-cleft almost to the base, the lobes oblong, acute; stamens inserted at the base of the corolla; female flowers, etc. unknown.

Hab. Tenasserim (or Andamans?) (Helfer 6389).

It is apparently very nearly allied to *C. viminalis*, Bl., but the incompleteness of the material before me excludes the possibility of identifying it. It requires also comparison with *C. exilis*, Griff. (*Ind. Palms.*, 51), a species which I have not seen.

40. C. paradoxus, *n. sp.*, Pls. XXIX and XXX.

An extensive scandent rattan palm, all parts glabrous, the sheathed stems 1 to 2 in. in diameter; leaves pinnate, 5—7 ft. long, terminating in a whip-like hooked-thorny tendril, the petiole short, along with the lower part of the rachis indistinctly puberous and armed underneath and near both margins with more or less straight sharp thorns; the sheaths armed with yellowish sharp flat spines arranged in combs; pinnæ 1 to 1½ ft. long, up to an inch broad, of a thin texture, alternating by pairs and remote, marginate, shortly acuminate and inconspicuously remotely appressed-ciliolate; male spadix bifariously decompound, ample, drooping; spathes all smooth, tubular, with a truncate shortly acuminate limb; spathules similarly shaped, but much smaller, embracing the base of the very short (1 to 3 lin. long) distichously imbricate-bracted male spikelets; bracts spreading, ovate, acute, about a line long, brown, glabrous; male flowers: calyx about a line long, deeply 3-cleft, striate; petals rigid, at base only connate, nearly 2½ line long, oblong, acute; stamens 6, filaments rigid, the lower part linear-oblong, longer and broader than the anthers, terminating in an infracted thread, from which the anther is versatilely suspended; ovary-rudiment hardly any; female flowers and fruits unknown.

Hab. Martaban, in the evergreen tropical forests of Palawa zeik (Toukyeghat), east of Tounghoo. Fl. Apr.

I heard this species called *Yamatha Khyeing* by the Burmans.

41. C. Guruba, *Mart., Palm., ed. I*, 211 *et ed. II*, 206 *and* 330, *t.*

175, *f. I, t. Z, XVIII, f. XX and XXI.* (*C. Mastersianus, Griff.* in *Macl. Calc. Journ., V,* 76 *and Ind. Palms.,* 84, *t.* 206 *and* 195, *B, excl. fol. sub nom. C. fasciculati*).

HAB. Frequent in leaf-shedding, especially the mixed, forests all over Burma from Chittagong and Ava down to Tenasserim. Fl. C. S.; Fr. Apr. May.

Called *Kyeing ni* in Burma.

Doubtful Species.

1. C. PLATYSPATHUS, *Mart., Palm., ed. I,* 210 (*Dæmonorops platyspathus, Mart., Palms.,* 206)

Stem thin, the sheaths sparingly armed with subulate thorns and spreading bristles, in front below the membranous deciduous limb with bristle-like thorns; the rachis and petiole with straight and recurved thorns; pinnæ all equidistant, linear-lanceolate, acute, several-nerved, plaited, along with the rachis beneath sparingly and minutely rusty-villous, ½ to 1 ft. long, about an inch broad; male spadix 1½ ft. long, supradecompound, the peduncle 1½ inch long, compressed-terete, thorny and bristly, the rachis lax, sparingly and minutely rusty-floccose, terminating in a recurved-thorny tendril; spathes membranous, flat, persistent, linear, 2—3 in. long, sparingly aculeate or almost unarmed; male flowers about a line long; calyx campanulate; corolla twice as long, the petals lanceolate, acute (*Mart. l. c.*).

HAB. Tenasserim, Tavoy (Wall. Cat. 8610).

I have not seen this species, which (owing to the tendril-bearing spadix) is evidently a *Calamus*, and, had it not been for the unequally distant pinnules, might have been compared with *C. Guruba.*

2. C. CONCINNUS, *Mart., Palm.,* 332, *t.* 116, *f. X; Walp. Ann. III,* 483.—Pl. XX, C.

Erect or almost stemless? the rachis of the leaves (and of the spadix) rusty-tomentose, sparingly beset below with half-conical subulate straight reversed pale thorns; pinnæ 15 to 20 in. long, 1—1½ inch broad, almost equidistant, linear-lanceolate, subulate-acuminate, many-nerved, glossy above, with numerous transverse veins, the margins and keel above setulose; female spadix decompound; spathes coriaceous, rupturing, with small rather straight recurved thorns; secondary spathes lax membranous; spathules ring-shaped, short; calyx-lobes ovate, twice as broad as the lanceolate almost equally long corolla-lobes; drupe globular, acute, as large as a pea; scales yellowish, the lower margin broader brownish (*Mart. l. c.*).

HAB. Tenasserim, Tavoy (Wall. Cat. 8607.)

This species also is unknown to me, and the figured drupes appear to be very unripe.

3. C. NITIDUS, *Mart., Palms.,* 334; *Walp. Ann., III,* 484.

Stem ? leaves rather rigid, the rachis armed with copious solitary and combined recurved thorns intermixed with smaller ones ; pinnæ ½ ft. long, 1 inch broad, approximate, equidistant, linear-lanceolate, glossy, marginate along the 3 nerves above and almost bristly along the border ; female spadix about 2—3 ft. long, terminating in a tendril, decompound ; spathes produced into a membranous limb 2 in. long, at base beset with small retrorse black thorns rather thick at apex ; flowers by pairs (a male and a fertile one) ; calyx tubular, 3-toothed ; corolla lobes ovate, acute ; drupes (unripe) globular, acute ; scales chestnut-brown on the middle, with a broad pale-coloured fringed margin (*Mart. l. c.*).

HAB. Tenasserim, Tavoy (Wall. Cat 8609).

Again a species which I cannot identify from the description only. It seems to belong in the affinity of *C. tigrinus*, etc. with fringed-appendaged scales, but has elongate spathules.

4. C. MELANACANTHUS, *Mart., Palm.*, 333, *t.* 116, *f. XIII, t. Z, XXII, f. X; Walp., Ann., III*, 484.—Pl. XX, B.

Scandent, the thorns all antrorse, glossy black (those of the sheaths almost whorled straight ?) those on the rachis almost solitary, scattered and short (1-3 lin. long), recurved ; pinnæ equidistant, linear, about 12—13 in. the upper ones ½ ft. long by 5—6 lin. broad, long acuminate, along the borders, on the midrib beneath and above and along the two lateral nerves beneath black-bristled ; female spadix decompound, terminating in slender retrorsely aculeate tendrils ; spathes rather terete, shortly truncate, the lower ones with scattered retrorse thorns, the upper ones almost unarmed ; drupes ellipsoid, acute, 10 lin. long by 5 lin. thick ; pale yellowish, sometimes with a brown-coloured thin margin (*Mart. l. c.*).

HAB. Tenasserim, Chappedong (Wall. Cat. 8608).

A species unknown to me.

5. C. HUMILIS, *Roxb., Fl. Ind., III*, 773.

Shrubby ; not scandent nor flagelliferous. Leaves lanceolar, smooth, many-nerved. Spines few, but long and strong (*Roxb. l. c.*).

HAB. Chittagong (Roxb.).

6. C. POLYGAMUS, *Roxb., Fl. Ind., III*, 780 ; *Griff. in Macl. Calc. Journ., V*, 48, *in adnot.*

A most extensive scandent rambler, canes the thickness of a common walking-stick ; spines almost whorled ; sheaths flagelliferous ; lower pinnæ in remote fascicles of 3 or 4, the upper ones single and alternate or opposite, all linear with a few bristles on the margins and nerves underneath ; male and hermaphrodite flowers on the same supra-decompound spadix (*Roxb., l. c.*).

HAB. Chittagong (Roxb.).

Hoodoom bet of the natives, according to Roxburgh.

EXPLANATION OF THE PLATES.

(All figures are of the natural size, except where the contrary is stated.)

Pl. XII. Areca hexasticha, *Kurz.* Fig. 1. plant, reduced in size; fig. 2. spadix in young fruit; fig. 3. transverse section of spadix, shewing the 6 series of flowers; fig. 4. a very young fruit with perianth; fig. 5. the same, longitudinal section, somewhat magnified.

Pl. XIII. Livistona speciosa, *Kurz.* Fig. 1. plant, reduced; fig. 2. a piece of the ultimate branching of the fruiting spadix; fig. 3. seed, from below; fig. 4. section of the same; fig. 5. upper part of petiole and base of leaf. (The trunk in fig. 1 is drawn too thick by nearly half a line).

Pl. XIV. Livistona speciosa, *Kurz.* Fig. 1. lower; fig. 2. upper part of petiole.

Pl. XV. Corypha macropoda, *Kurz.* Fig. 1. plant, reduced; fig. 2. seedling-plant, also reduced; fig. 3. fruit; fig. 4. terminal pinnæ, reduced; fig. 5. portion of petiole, reduced.

Pl. XVI. Plectocomia macrostachya, *Kurz.* Fig. 1. tail-like spike, lowest and uppermost part of it; fig. 2. a spathule with the inflorescence; fig. 3. flower; fig. 4. flower of *Plectocomia elongata*, for comparison's sake; fig. 5. flower, opened out, magnified; fig. 6. petal, from outside, magnified.

Pl. XVII. Plectocomia macrostachya, *Kurz.* Fig. 1. a portion of the leaf; fig. 2. the same, shewing spine on the under side.

Pl. XVIII. Dæmonorops hypoleucus, *Kurz.* Fig. 1. flowering branch, ♀; fig. 2. an ultimate branching of inflorescence, magnified; fig. 3. calyx, magnified; fig. 4. corolla, laid open, magnified.

Pl. XIX. Dæmonorops hypoleucus, *Kurz.* Fig. 1. portion of branch and lower part of leaf; fig. 2. terminal portion of leaf.

Pl. XX. *A.* Korthalsia scaphigera, *Mart.*, from the Andamans. Fig. 1. part of fruiting spadix; fig. 2. a flowering catkin, ♀; fig. 3. drupe; fig. 4. scales of drupe, magnified; fig. 5. seed; fig. 6. the same, longitudinal section. *B.* Calamus melanacanthus, *Mart.* Fig. 1. drupe, copied from Martius's work. *C.* Calamus concinnus, *Mart.*, copied from Martius's work. Fig. 1. fruiting branchlet; fig. 2. drupe, magnified.

Pl. XXI. Korthalsia scaphigera, *Mart.*, from the Andamans. Fig. 1. sheath and lower part of petiole; fig. 2. young plant.

Pl. XXII. Calamus arborescens, *Griff.*, from Pegu. Fig. 1. part of fruiting spadix; fig. 2. drupe; fig. 3. scales; fig. 4. seed, immature; fig. 5. terminal portion of the male spadix; fig. 6. male flower, somewhat magnified; fig. 7. calyx, slit open, magnified; fig. 8. corolla, with stamens, laid open, magnified; fig. 9. stamens from different views, magnified.

Pl. XXIII. Calamus erectus *Roxb.*, from Chittagong. Fig. 1. lower part of female spadix; fig. 2. portion of fruiting spadix; fig. 3. seed, with the resinous cover; fig. 4. seed, longitudinal section; fig. 5. scales.

Pl. XXIV. Calamus erectus, *Roxb.*, from Chittagong. Fig. 1. portion of male spadix; fig. 2. male flower; fig. 3. corolla with stamens, laid open, somewhat magnified; fig. 4. stamens from different views, magnified.

Pl. XXV. Calamus tigrinus, *Kurz*, from the Andamans. Fig. 1. fruiting branch of the spadix with portion of tendril; fig. 2. lower part of the basal spadix; fig. 3. drupe;

fig. 4. scales of the same, magnified; fig. 5. seed from above; fig. 6. the same, side-view; fig. 7. the same in longitudinal section, shewing the embryo at *e.*; fig. 8. young fruits, from Pegu; fig. 9. scale of the same, magnified.

Pl. XXVI. Calamus tigrinus, *Kurz*, from the Andamans. Fig. 1. leaf with tendril, reduced; fig. 2. portion of petiole and sheath with tendril; fig. 3. pinnule.

Pl. XXVII. *A.* Calamus Andamanicus, *Kurz*, from the Andamans. Fig. 1. portion of the fruiting spadix; fig. 2. drupe; fig. 3. scales of the same, magnified; fig. 4. the same, still more magnified; fig. 5. seed; fig. 6. the same, longitudinal section. *B.* Calamus fasciculatus, *Roxb.*, from Burma. Fig. 7. a portion of the spadix with unripe and monstrous fruits; fig. 8. a monstrous fruit, magnified.

Pl. XXVIII. Calamus Andamanicus, *Kurz*, from the Andamans. Fig. 1. a portion of the stem with leaf and lower part of inflorescence, much reduced; fig. 2. the same, with the lower part of the petiole; fig. 3. a pinnule.

Pl. XXIX. Calamus paradoxus, *Kurz*, from the Martaban. Fig. 1. portion of flowering male spadix; fig. 2. terminal spikelet of the same, magnified; fig. 3. a male flower, magnified; fig. 4. the same laid open, magnified; figs. 5 and 6. anthers seen from the side and front, magnified; fig. 7. leaf, reduced.

Pl. XXX. Calamus paradoxus, *Kurz*, from Martaban, ♀. Fig. 1. lower portion of leaf and sheath; fig. 2. upper portion of ditto, with part of tendril.

Pl. XXXI. *A.* Calamus latifolius, *Roxb.*, from the Andamans. Fig. 1. portion of the fruiting spadix; fig. 2. drupe: fig. 3. scales of the same, magnified; figs. 4 and 5, seed seen from below and above; fig. 6. the same in longitudinal section; fig. 7. unripe fruits from Pegu; fig. 8. the same, somewhat magnified; fig. 9. scales of the same, magnified. *B.* Calamus tenuis, *Roxb.*, from Chittagong. Fig. 1. piece of fruiting spadix; fig. 2. drupe; fig. 3. scales of the same, magnified; fig. 4. seed, from above; fig. 5. the same, in longitudinal section; fig. 6. unfinished pencil sketch of drupe, copied from Roxburgh's drawings. *C.* Calamus gracilis, *Roxb.*, from Assam. Fig. 1. lower part of spadix with leaf-sheath; fig. 2. drupe; fig. 3. seed from below; fig. 4. the same, in longitudinal section; fig. 5. scales, magnified; fig. 6. transverse section of the same.

On the General Theory of Duplex Telegraphy.

By Louis Schwendler.

(Continued from page 21.)

The first part of this investigation concluded by giving the best relations between the resistances of the different branches of the Bridge Arrangement, under the limiting supposition, however, that the line used for duplex working was perfect in insulation, or more generally that the real conduction resistance of the line could be neglected against the resistance of the resultant fault.*

It now remains, therefore, to investigate if the simple relations given are generally true; or, if not, what they become in case the line has an appreciable leakage. In fact this is clearly the case of practical importance, since all overland lines, especially long ones, even if constructed on the best known principles, will always have a very considerable leakage, *i. e.*, the resistance of the resultant fault (i) will generally be by no means very large in proportion to the real conduction resistance (L) of the line.

In order to obtain the best general solution of the problem, we must conduct the investigation with great caution, that is, we must be careful not to introduce beforehand any relation between the different variables, however convenient, that is not necessarily a consequence of the paramount condition to be fulfilled for Duplex Telegraphy, *i. e.*, *Regularity of Signals.*

Thus it will be seen that the present general investigation must be conducted somewhat differently from the special one given in the First Part.

It must, however, be understood from the beginning that whatever the best relations may be, which should exist between the different resistances of the Bridge Method, when used on an imperfect line, these relations must revert to the special ones given before if we put $i = \infty$, and this fact affords a certain check upon the correctness of the new relations to be found.

General solution of the first problem for the Bridge Method.

The diagram (Fig. 1) given in the First Part represents the general case, and to it therefore I shall refer in the present paper.

The general mathematical question which is to be solved for Duplex Telegraphy has been stated as follows:—

Regularity of Signals. D *and* S *are two functions which must be rigidly equal to zero when no variation in the system occurs; and which for*

* For a definition of the terms, "resultant fault," "real conduction," "measured conduction," "real insulation," "measured insulation," &c., which will be of frequent occurrence in this paper, see my *Testing Instructions*, Part II, Section I.

any given variation in the system must be as small as possible, and approximate rapidly towards zero as the variation in the system becomes smaller and smaller.

Further these two functions D and S were expressed, say for Station (I), as follows:

$$D' = \frac{E'}{E''}\frac{N''}{N'}\frac{1}{\mu'}\frac{\Delta'}{m''\psi'} \quad \ldots \quad \ldots \quad \ldots \quad \text{(III')}$$

and

$$S' = E''\frac{m''}{N''}\mu'\psi' - \frac{E'b'}{n'} + \sigma'\phi' \quad \ldots \quad \ldots \quad \text{(IV')}$$

These two expressions are quite general, *i. e.*, they do not as yet contain any restrictive conditions (beyond those involved by the mode of arrangement of the system of conductors) between the different variables; and the signification of the abbreviated terms can be found from the First Part.*

Now the first relation that we shall introduce is

$$w + \beta = f$$

for both stations, which may be called most appropriately "*the key equation.*"

The introduction of this relation at the outset is quite justified, for say that $S' = D' = o$ is rigidly fulfilled in Station (I), when Station (I) is sending and the key in Station (II) is at rest, and suppose the electromotive force in Station (II) equals o (the E. M. F. of all elements annulled and only their resistance β'' left), then, moving the key in Station (II) from its rest contact to its working contact, the regularity condition $S' = D' = o$ would be (*i. e.* balance in Station I) at once disturbed if $w'' + \beta'' \gtrless f''$ during the motion of the key, even if no variation in the line took place. Thus it is paramount to have $w + \beta = f$ for each station during the movement of the key.†

* For convenience of reference I shall give here all the terms of which use will be made hereafter.

$$n = b\,(a + d + g + f) + (a + g)\,(f + d.)$$
$$m = b\,(g + d) + d\,(a + g.)$$
$$k = b\,(a + f) + a\,(f + d.)$$
$$\psi = \frac{k}{n}$$
$$\rho = \frac{a}{n}$$
$$a = b\,(g + d)\,(a + f) + a\,g\,(d + f) + f\,d\,(a + g.)$$

These expressions have been obtained by the application of Kirchoff's rules to the Bridge Arrangement as represented in Fig. 1, and they are quite general, as no other relations beyond those represented by the diagram have been introduced as yet.

† To fulfil the key equation most exactly during the movement of the key, I have constructed a key (constant resistance key) based on the following principle: During

But if for instance in Station (I)

$$w' + \beta' = f'$$

it follows that

$$\phi' = \psi'^{*}$$

Hence, substituting its value for σ' and reducing, we get more simply,

$$S' = \frac{E' m'}{N'} \psi' - \frac{E' b'}{n'} \quad \ldots \quad \ldots \quad \ldots \quad \text{(IV')}$$

but as

$$\frac{m'}{N'} = \frac{b'}{k' - \frac{\Delta' n'}{m'}}$$

and

$$\psi' = \frac{k'}{n'}$$

we have

$$S' = \frac{E' b'}{n'} \left\{ \frac{1}{1 - \frac{\Delta'}{m' \psi'}} - 1 \right\} \quad \ldots \quad \ldots \quad \text{(IV')}$$

Therefore S' approximates most rapidly† towards zero if $\frac{\Delta'}{m' \psi'}$ does, or we have

$$\theta' = \frac{\Delta'}{m' \psi'}$$

should be as small as the circumstances will allow of.

the first movement of the key (up or down stroke) a force is stored up in a spring before the contacts are changed, which force finally causes the change in these contacts; for this reason the two principal contacts of the key co-exist only for an almost infinitesimal time, the length of which is moreover independent of the signalling speed. Thus for this key $w + f = \beta$ is fulfilled in all positions except one, when it is $\frac{w + \beta}{2}$, but for such a short time that the error cannot have any disturbing influence whatever.

* ψ' is the proportion of the total current arriving at point 1 Fig. 1, which passes off through the instrument g' when the key of Station (I) is at rest. Then ψ', being a function of a', b', d', g', is also a function of f'. ϕ' is the proportion of the total current arriving at point 1 Fig. 1, which passes through the instrument g' when the key of Station (I) is sending, thus, besides being a function of a', b', d' and g', it is a function of $w' + \beta'$ insead of f', and as ϕ' and ψ' are otherwise quite similar functions they become identical if we make

$$f' = w' + \beta'$$

† $\frac{E' b'}{n'}$ can never become zero, but should on the contrary be as large as possible, and, therefore, S' can only approximate towards zero by $\frac{\Delta'}{m' \psi'}$ becoming as small as possible.

Now that D' approximates also rapidly towards zero by making

$$\theta' = \frac{\Delta'}{m' \psi'}$$

as small as possible can be proved as follows :—

By definition we have

$$D' = \frac{p'}{P'}$$

Further, as $\phi' = \psi'$ (on account of the key equation), we have

$$p' = S' \text{ invariably}$$

$$\therefore \quad D' = \frac{S'}{P'}$$

Thus D' for any given P' approximates towards zero at the same rate as S' does, *i. e.*, the smaller θ' becomes.

Therefore the whole problem is actually most generally solved by making

$$\theta = \frac{\Delta}{m \psi}$$

as small as possible for both stations.

Now for Station (I), if balance in the g' branch for the outgoing current be established, we have

$$a' d' - b' c' = o$$

where c' is the "*measured circuit*" from Station (I), and supposing that all variations in the system are chiefly due to variations in the line resistance,* we have at once:

$$- b' \delta c' = \Delta'$$

$\delta c'$ the total variation of the line resistance may be either positive or negative, and supposing that $\delta c'$ contains its sign we have:

$$\theta' = \frac{\frac{\delta c'}{m' \psi'}}{b'}$$

to be made as small as possible.

Now in case of the line being perfect ($i = \infty$) $\delta c' = \delta L$ (a constant with respect to the different resistances of each arrangement, and which was the case in the first solution). At present however $\delta c'$ is a function

* The variations in c' may be due to variations in the line, or to variations in the duplex arrangements. In the latter case they may be due either to an alteration of temperature in the station and then the effect can be only small, or to an accident (wire or connection breaking) and then the influence will become so great that nothing short of actual repairs could help. Thus practically the problem has only to be solved for variations in the line.

of the resistances of the two arrangements, which function must be first determined before we can decide what general condition makes θ' as small as possible.

We have

$$c' = l' + \frac{i\,(l'' + \rho'')}{i + l'' + \rho''}$$

ρ'' being the complex resistance of Station (II).

Put $l' = x$

and $l' + l'' = L$

$$\therefore \quad c' = x + \frac{i\,(L - x + \rho'')}{i + L - x + \rho''}$$

Now c' may vary from three essentially different causes, namely :—

1. x varies, or the position of the resultant fault alters ;
2. i varies, or the resistance of the resultant fault alters ;
3. L varies or the real conduction of the line alters, as may happen by an increase or decrease of the temperature along the whole length of the line, or by the occurrence of a partial discontinuity (imperfect joints, loose shackles, &c.).

These three causes may act separately or conjointly, and their total effect we can approximately get by taking the *total* differential of c' with respect to x, i, and L.

$$\therefore \qquad dc' = \frac{dc'}{dx}\,dx + \frac{dc'}{di}\,di + \frac{dc'}{dL}\,dL$$

or
$$\delta c' = \frac{dc'}{dx}\,\delta x + \frac{dc'}{di}\,\delta i + \frac{dc'}{dL}\,\delta L \qquad \text{approximately,}$$

which expression is perfectly true, however, for small variations δx, δi, and δL.

Now*

$$\frac{m'\,\psi'}{b} = \frac{N'}{n'} + \delta c' = \rho' + c' + \delta c'$$

* $$\frac{m'}{N'} = \frac{b'}{K' - \Delta'\,\frac{n'}{m'}}$$

$$\therefore \quad \frac{N'}{m'} = \frac{K'}{b'} - \frac{\Delta'}{b'} \cdot \frac{n'}{m'}$$

or $$\frac{K'}{b'} = \frac{N'}{m'} + \frac{\Delta'}{b'} \cdot \frac{n'}{m'}$$

but $$\Delta' = b'\,\delta c'$$

$$\therefore \quad \frac{K'}{b'} = \frac{N'}{m'} + \delta c'\,\frac{n'}{m'}$$

$$\therefore \quad \theta' = \frac{\frac{d\,c'}{d\,x}\,\delta x + \frac{d\,c'}{d\,i'}\,\delta i + \frac{d\,c'}{dL}\,\delta L}{\rho' + c' + \delta c'}$$

But as δx, δi and δL are very small, and, as neither $\frac{d\,c'}{d\,x}$, $\frac{d\,c'}{d\,i}$, nor $\frac{d\,c'}{dL}$ can become infinite, it follows that $\delta c'$ must be always very small in proportion to c' itself, and more so as compared with $\rho' + c'$.

Thus we have at last

$$\theta' = \frac{dc'}{dx}\,\delta x + \frac{dc'}{di}\,\delta i + \frac{dc'}{dL}\,\delta L$$
$$\overline{\rho' + c'} \qquad \overline{\rho' + c'} \qquad \overline{\rho' + c'}$$

and therefore to make θ', for independent variations δx, δi, and δL, as small as possible, each term should be made as small as possible. Now, taking ρ' and ρ'' as independent variables, it will be seen that the total differential of each term is negative. Thus θ' becomes smaller the larger ρ' and ρ'' are selected, and the same of course is the case for θ'' (Station II).

Now the complex resistance of any one station can be expressed as follows :—

$$\rho^* = \frac{(a+f)(g+d)}{a+g+d+f} - \frac{(ad-gf)^2}{(a+d+g+f)\left\{b(a+d+g+f)+(a+g)(f+d)\right\}}$$

Thus for any given sum of resistances, *i. e.*, $a+f+d+g = \text{const.}$, ρ will be largest if

$$a\,d - g\,f = o \qquad \text{(VI)}$$

which is the "*immediate balance condition.*"

Now

$$\frac{m'\,\psi'}{b'} = \frac{K'}{b'} \cdot \frac{m'}{n'}$$

Substituting for $\frac{K'}{b'}$ its value we get

$$\frac{m'\,\psi'}{b'} = \frac{N'}{n'} + \delta c'$$

but $N' = c'\,n' + a'$

$$\therefore \quad \frac{N'}{n'} = c' + \frac{a'}{n'}, \text{ but } \frac{a'}{n'} = \rho'$$

$$\therefore \quad \frac{N'}{n'} = c' + \rho'$$

or $$\frac{m'\,\psi'}{b'} = c' + \rho' + \delta c'$$

* This expression is nothing else but the resistance of a Wheatstone's Bridge between the two battery electrodes. It is most easily obtained by the application of Kirchoff's rules.

The fulfilment of the immediate balance condition is therefore no longer an assumption made to afford convenient and quick means of adjustment when balance is disturbed, but, as has been proved, is necessary in order to reduce the effect of any disturbance whatever to a minimum.

Supposing now the fulfilment of the immediate balance, we have

$$p = \frac{(g + d)(a + f)}{a + d + f + g}$$

which again has a relative maximum for

$$g + d = a + f$$

whence it follows, in consequence of equation (VI), that

$$a = d = f = g \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{(VIII)}$$

represents the general solution of the problem.

This result might of course have been anticipated from the special solution, since equation (VIII) gives only a relation between the branches, quite independently of i. It remains now to determine the magnitude of one of the branches, and to this end we have to consider the magnetic moments of the receiving instruments.

MAXIMA MAGNETIC MOMENTS. By definition we have

$$S = P - Q$$

for both stations, and as it has been proved before quite generally that $S = o$ if $\Delta = o$, *i. e.*, if rigid balance in the station for the out-going current be established, we know at once that at or near balance the currents which in one and the same station produce single and duplex signals must be identical, and need therefore express the magnetic moment in each station for *one* current only, by presupposing balance in both the stations.

The currents which at or near balance produce the signals are

$$* G' = \frac{E''}{4} \cdot \frac{\mu'}{g'' + c''} \qquad \text{in Station (I),}$$

and

$$* G'' = \frac{E'}{4} \cdot \frac{\mu''}{g' + c'} \qquad \text{,, ,, (II).}$$

* For balance in Station (II) the current passing through Station (I) is

$$G' = E'' \frac{b''}{K''} \mu' \psi'$$

$$\frac{K''}{n''} = \psi''$$

$$\therefore \quad G' = E'' \frac{b''}{n'' \psi''} \mu' \psi'$$

but $\psi' = \psi''$ on account of $a = d = g = f$ in each Station

$$\therefore \quad G' = E'' \frac{b''}{n''} \mu'$$

but $n'' = 4 g'' (g'' + b'')$

and dividing by b'' we get

These expressions follow from the general formulæ by fulfilling the regularity equation (VIII) for both stations, and in addition the balance conditions.

Multiplying now G' by $\sqrt{g'}$ and G'' by $\sqrt{g''}$, we get

$$P' = \frac{E''}{4} \cdot \frac{\sqrt{g'}}{g'' + c''} \mu'$$

$$P'' = \frac{E'}{4} \cdot \frac{\sqrt{g''}}{g' + c'} \mu''$$

the magnetic moments of the two instruments in Nos. (I) and (II) Stations respectively; and, considering that*

$$\frac{\mu'}{g' + c''} = \frac{\mu''}{g' + c'} = \frac{i}{Q}$$

where $Q = (g' + l')(g'' + l'') + i(g' + g'' + l' + l'')$, we may write the two above expressions as :—

$$P' = \frac{E''}{4} \cdot \frac{Q}{i} \sqrt{g'}$$

$$P'' = \frac{E'}{4} \frac{i}{Q} \cdot \sqrt{g''}$$

The first expression has clearly an absolute maximum with respect to g', and the second with respect to g'', but these two maxima cannot be simultaneously fulfilled, and do not therefore represent a solution in this particular case. But if we consider that during a *duplex* signal both the instruments g' and g'' are in circuit, while during a *single* signal, though not both the instruments yet certainly their equivalent in resistances are in circuit, it will be clear why simultaneous maxima of the two single expressions are *not* possible. It represents simply the more general case to which the question belongs of making the magnetic moments of two instruments, connected up in the same single circuit, maxima. In this case it is well known we can do nothing more than make the sum of the magnetic moments a maximum, and here therefore we must do the very same.

Adding then we get

$$P = P' + P'' = \frac{i}{4} \frac{E'' \sqrt{g'} + E' \sqrt{g''}}{Q}$$

$$G' = \frac{E''}{4} \cdot \frac{\mu'}{g'' + \frac{g''^2}{b'}}$$

but $g''^2 = b'' c''$ on account of balance in Station (II)

$$\therefore \quad G' = \frac{E''}{4} \cdot \frac{\mu'}{g'' + c''}$$

* This can be easily shewn by substituting for μ', μ'', c' and c'' their actual values.

which expression has a maximum with respect to both g' and g'' considered as independent variables, and such indeed according to the nature of the problem they really are.

Thus, differentiating P with respect to g' and g'', we get

$$\frac{d\,P'}{d\,g'} = Q - 2\sqrt{g'}\left\{\sqrt{g'} + \frac{E'}{E''}\sqrt{g''}\right\}\frac{d\,Q}{d\,g'} = o$$

and

$$\frac{d\,P}{d\,g''} = Q - 2\sqrt{g''}\left\{\sqrt{g''} + \frac{E''}{E'}\sqrt{g'}\right\}\frac{d\,Q}{d\,g''} = o$$

But as the same kind of instruments are employed in both the stations, we require evidently also the same force in both to produce the signals, no matter what the state of the line may be.

Thus we must put*

$$P' = P''$$

or

$$\frac{E''}{4}\frac{\sqrt{g'}}{Q} = \frac{E'}{4}\frac{\sqrt{g''}}{Q}$$

$$\therefore \quad \frac{E''}{E'} = \frac{\sqrt{g''}}{\sqrt{g'}}$$

Substituting this value for the proportion of the E. M. F., we get

$$Q - 4g'\frac{dQ}{dg'} = o$$

and

$$Q - 4g''\frac{dQ}{dg''} = o$$

but

$$\frac{dQ}{dg'} = g'' + l'' + i$$

and

$$\frac{dQ}{dg''} = g' + l' + i$$

Substituting these values in the above equations and reducing; and, further, dividing the first equation by $l' + i$ and the second by $l'' + i$, we get at last

$$l'' + \frac{i\,l'}{i + l'} + g'' - 3\,g''\left(1 + \frac{g''}{l'' + i}\right) = o$$

and

$$l' + \frac{i\,l}{i + l''} + g' - 3\,g'\left(1 + \frac{g'}{l' + i}\right) = o$$

* This supposition in the case of a perfect line is fulfilled by itself, since then the two instruments are not only of the same kind, but absolutely identical.

Put $l'' + \frac{i\,l'}{i + l'} = L''$ measured conduction from Station (II),

and $l' + \frac{i\,l''}{i + l''} = L'$ measured conduction from Station (I).

Thus, the two equations which determine the absolute magnitude of g' and g'' respectively, are

$$L' + g' - 3\,g'\left(1 + \frac{g'}{l' + i}\right) = o$$

and

$$L'' + g'' - 3\,g''\left(1 + \frac{g''}{l'' + i}\right) = o$$

from which g' and g'' can be expressed, namely,

$$g' = -\tfrac{1}{3}\,q' + \tfrac{1}{3}\sqrt{q'\,(3\,L' + q')} \quad \ldots\ldots\ldots\ldots \text{(X')}$$

and

$$g'' = -\tfrac{1}{3}\,q'' + \tfrac{1}{3}\sqrt{q''\,(3\,L'' + q'')} \quad \ldots\ldots\ldots\ldots \text{(X'')}$$

where

$$q' = i + l'$$

and

$$q'' = i + l''$$

Supposing now $i = \infty$, or the insulation perfect, we have $L' = L'' = L$, and

$$g' = g'' = g = \frac{L}{2}$$

the former *special* solution.

But so long as i is not infinite, L' and L'' may be different from each other; and, therefore, also g' different from g'', and, further,

$$g' = \frac{L'}{2}$$

and

$$g'' = \frac{L''}{2}$$

will be somewhat too large. These values will, however, represent a very close approximation in the case of any line in tolerably good electrical condition; and, as a line worked *duplicè* represents two lines, it can be always afforded to select the best sections, when the above values for g' and g'' will be sufficiently correct for all practical purposes, especially if it be remembered that when once g' and g'' have been fixed, they cannot be easily altered, and that, therefore, L' and L'' must be invariably certain averages, either for the whole year or for certain seasons. This, however, belongs more to the practical application than to the theory of Duplex Telegraphy.

The resistance of the b branch in each station can now be easily calculated from the balance equations and the values given for g' and g''.

The value of the b branch must be calculated to enable as to ascertain that *maximum* part of b which will have to be made variable in increments for the purpose of adjusting balance, and to this interesting question we shall revert further on.

The general solution of the problem might now be considered complete, if it were not for the currents which produce the signals, of which we do not know as yet with certainty that we have the maxima in the solution given above. It must, however, be understood that this solution represents the *only true one* from our physical point of view, and that, if it should not be identical with that giving the maxima currents, when considered generally by themselves from the beginning, the solution would not be thereby invalidated; but only the duplex method in question would prove to be not quite so perfect as could be desired. The sequel, however, will shew that the relation $a = d = g = f$ represents also the maxima currents that are possible under the circumstances. As this investigation is of great importance in forming a correct opinion of the value of the method, it will be fully gone into.

Maxima Currents. When considering the question of currents, for any telegraphic circuit, the two conditions which invariably should be fulfilled are:

Firstly.—Greatest possible constancy of current.

Secondly.—Maximum current.

How far these two conditions can be fulfilled simultaneously, depends clearly on the special circuit and the special arrangements adopted; but so much is certain, that from a practical point of view, the first condition (constancy of current) will always be of far greater importance than the second, inasmuch as the required strength of currents can be obtained by employing cells, efficient in kind, sufficient in number, and properly arranged to suit requirements.

Thus in our case, when we consider the currents which produce the signals in Duplex Telegraphy, before going to the condition of maximum current, we must ascertain first the condition of *greatest possible constancy* of current.

Now it has been proved before that *immediate balance* in each station is requisite in order to make the effect of any disturbance on the receiving instrument as small as the circumstances will allow of. But as these disturbances were considered with respect to *one* and the *same* instrument, *i. e.*, independently of the magnetic moment, these disturbances are then simply due to the disturbances in the signalling current; from which it follows at once that the fulfilment of the *immediate balance* condition is required also

in order to have the *greatest possible constancy* in the signalling current. Thus when investigating the question of maxima currents we are justified in presupposing the rigid fulfilment of the immediate balance for both stations, *i. e.*,

$$ad - gf = o$$

Further, as it has been shewn before that the fulfilment of the regularity condition

$$a = d = g = f$$

for both stations does make the effect of the disturbances still *smaller*, we have only to investigate the current at balance, and to show that the condition of maximum current becomes identical with the regularity condition, whence it would follow that the duplex method under consideration is perfect in every conceivable respect.

The question to be solved stands, therefore, as follows :—

Two signalling currents, the expressions of which are known, have to be made simultaneous maxima, while the different variables are linked together by four condition equations.

Thus $$G' = E'' \frac{b''}{k''} \mu' \psi'$$

the current which produces single and duplex signals in Station (I).

$$G'' = E'' \frac{b'}{k'} \mu'' \psi''$$

the current which produces single and duplex signals in Station (II).

1. $a' d' - b' c' = o$

balance in (g') Station (I).

2. $a'' d'' - b'' c'' = o$

balance in g'' Station (II).

3. $a' d' - g' f' = o$

4. $a'' d'' - g'' f'' = o$

immédiate balance in both stations.

} Condition equations.

Now c' is a function of ρ'', but on account of equation (4) ρ'' is independent of b'', thus c' is also independent of b''; in the same way it follows that c'' is independent of b'; thus b' and b'' can be explicitly expressed at once, and from the four condition equations we have

$$b' = \frac{a' d'}{c'}$$

$$b'' = \frac{a'' d''}{c''}$$

$$f' = \frac{a' d'}{g'}$$

$$f'' = \frac{a'' d''}{g''}$$

and, substituting these values in the expressions for G' and G'', we get

$$G'^{*} = E'' i \cdot \frac{a' g''}{\left\{c'' (a'' + g'') + a'' (g'' + d'')\right\}\left\{q' (a' + g') + a' (g' + d')\right\}}$$

$$G''^{*} = E' i \cdot \frac{a'' g'}{\left\{c' (a' + g') + a' (g' + d')\right\}\left\{q'' (a'' + g'') + a'' (g'' + d'')\right\}}$$

where

$$q' = i + l'$$
$$q'' = i + l''$$

Put $$\frac{g''}{g'} = k$$

and substitute in the first expression

$$g'' = k g'$$

in the second

$$g' = \frac{g''}{k}$$

when we get

$$G' = E'' i k \cdot \frac{a' g'}{\left\{c'' (a'' + g' k) + a'' (d'' + g' k)\right\}\left\{q' (a' + g') + a' (g' + d')\right\}}$$

$$G'' = E' i \cdot \frac{a'' g''}{\left\{c' (g'' + a' k) + a' (g'' + d' k)\right\}\left\{q'' (a'' + g'') + a'' (d'' + g'')\right\}}$$

Now it will be seen that G' has clearly a maximum with respect to g', while G'' has a maximum with respect to g''; thus, if we take g' as the only variable in G' (k constant) and differentiate with respect to g', we get

$$\frac{d G''}{d g'} = 0$$

and, if we take g'' as the only variable in G'' and differentiate, we get

$$\frac{d G''}{d g''} = 0$$

* If in these two expressions we put

$$i = \infty$$

and remember that then

$$a' = a'' = a$$
$$d' = d'' = d$$
$$g' = g'' = g$$

and $$c' = c'' = L + \rho$$

while $$\rho = \frac{a (g + d)}{a + g}$$

we get $$G' = G'' = G = E \frac{a g}{\left\{L (a + g) + 2 a (g + d)\right\} \cdot (a + g)}$$

the expression of the current which produces the signals (single and duplex) through a perfect line, as was given in the first part of this investigation (p. 19).

These two equations must be fulfilled simultaneously in order to have the simultaneous maxima of the two currents in question.

Executing the differentiation, and re-substituting for k its value $\frac{g''}{g'}$, we get after reduction

$$a' a'' (c'' + d'') (q' + d') - g' g'' (a' + q') (a'' + c'')$$
$$- g' (a'' + g'') \left\{ (q' (a' + g') + a' (g' + d') \right\} \frac{d c''}{d g'} = o$$

and
$$a' a'' (c' + d') (q'' + d'') - g' g'' (a'' + q'') (a' + c')$$
$$- g'' (a' + g') \left\{ q'' (a'' + g'') + a'' (g'' + d'') \right\} \frac{d c'}{d g''} = o$$

while

$$\frac{dc''}{dg'} = \frac{i^2}{(q' + \rho')^2} \cdot \frac{a' (a' - d')}{(a' + g')^2}$$
$$\frac{dc'}{dg''} = \frac{i^2}{(q'' + \rho'')^2} \cdot \frac{a'' (a'' - d'')}{(a'' + g'')^2}$$

Now the terms in the two equations which have $\frac{dc''}{dg'}$ and $\frac{dc'}{dg''}$ for factors become independently zero, the first for $a' = d'$, and the second for $a'' = d''$; and, substituting these values for d' and d'' in the other two terms, both become zero for

$$a' a'' - g' g' = o$$

whence it follows that

$$a' - d' = o$$
$$a'' - d'' = o$$
$$a' a'' - g' g'' = o$$

is one of the simultaneous solutions of the two equations.*

Thus, substituting for d' its value a', and for d'' its value a'', we get

$$G' = E'' i \frac{a' g''}{(c'' + a'') (a'' + g'') (a' + g') (a' + q')}$$
$$G'' = E' i \frac{a'' g'}{(c' + a') (a' + g') (a'' + g'') (a'' + q'')}$$

The first equation has clearly a maximum with respect to a', and the second with respect to a'', namely

$$\frac{dG'}{da'} = 0, \text{ which gives } a' = g',$$

and
$$\frac{dG''}{da''} = 0, \text{ which gives } a'' = g''.$$

* The other solutions which are possible from a mathematical point of view are however impossible with respect to the physical problem, for the quantities being all electrical resistances must be taken with the same sign, say positive.

Thus it follows generally that $a = d = g$ represents a maximum of the currents, and this, in consequence of the immediate balance, gives at last

$$a = d = g = f$$

the known regularity condition, which thus has also to hold good in order to make the two currents G' and G'' simultaneous maxima.

The *first problem* for the Bridge Method has therefore now been generally solved, and the results are expressed by the following formulæ:

$$\mathbf{a = d = f = g = w + \beta}$$

$$\mathbf{g = H\left(\sqrt{1 + \frac{L}{H}} - 1\right)}$$

where $$H = \frac{q}{3} = \frac{l + i}{3}.$$

When the insulation is perfect ($i = \infty$) the results revert to those originally obtained in the special solution, *viz* :—

$$\mathbf{a = d = f = g = w + \beta}$$

$$\mathbf{g = \frac{L}{2}}$$

$$\mathbf{b = \frac{L}{6}}$$

It will be clear that the given solution fulfils the following conditions which are necessary and sufficient to place Duplex Telegraphy on a par with Single Telegraphy.

i. *Any variation in the resistance of the line has the least possible disturbing effect on the receiving instrument.*

ii. *Any disturbance can be eliminated by a single adjustment in the* b *branch without disturbing balance in the distant station.*

iii. *Maximum magnetic moment of the receiving instrument.*

iv. *Maximum current.*

There seems to me to be no other method that can fulfil all these conditions simultaneously, and the "*double balance*"* method must therefore be pronounced perfect in every conceivable respect. I am convinced that if the general problem of duplex working were investigated by means of the Variation Calculus, the *double balance* method would come out as the *final* and *only* solution.†

* I have called this method the "*double balance*" method, since there are two balances to be fulfilled in each station, namely, balance in the *b* branch for the arriving current and balance in the *g* branch for the outgoing current.

† The double balance method was introduced on one of the important Bombay-Calcutta main lines in June last. Since then this duplex method has been working so satisfactorily and with such regularity and speed, even during the worst time of the

ADDENDUM.

HISTORICAL.

When reading this paper before the Asiatic Society on the 4th February 1874, and, further, when editing the First Part for publication in the Journal of the Society, I was unacquainted with the fact that a most complete history of Duplex Telegraphy had been published by Dr. Karl Eduard Zetzsche* (Leipzig 1865). According to Professor Zetzsche,† the Bridge Method of Duplex Telegraphy was already invented in 1863 by Maron, a Prussian Telegraph Inspector; and Dr. Zetzsche very truly remarks that the Bridge Method would seem to be that least affected by variations in the resistance of the line. To this, from an historical point of view, most valuable book, I refer the reader. It is to be hoped that an English translation of it may soon be published.

year (South-West monsoon)—when necessarily the insulation as well as the inductive capacity of lines are so enormously variable, that about its thorough practicability no doubt can be entertained, and Col. Robinson, Director General of Telegraphs in India, has consequently decided to introduce this duplex method also on the other long main lines of India.

At present the apparatus for the Bombay-Madras line (worked direct 800 miles) is almost finished, and the apparatus for Calcutta-Rangoon is under manufacture.

The Calcutta-Bombay main line is worked duplicè with Jabalpur only in translation; distance between Calcutta and Jabalpur 850 miles: distance between Jabalpur and Bombay 640 miles. The wire is almost throughout No. $5\frac{1}{2}$ B. W. G. (diam. = $5\frac{1}{4}$ m. m.)

This experiment, made on such a large scale and under the most unfavorable meteorological conditions, has proved most conclusively the practicability of the *double balance* method, which certainly will invariably succeed on any line where single telegraphy is possible.

* Die Copiertelegraphen, die Typendrucktelegraphen, und die Doppel Telegraphie, ein Beitrag zur Geschichte der electrischen Telegraphie, von Dr. Karl Eduard Zetzsche, Leipzig 1865.

† Page 125 in the work quoted.

(To be continued.)

List of Chiroptera inhabiting the Khasia Hills, with description of a new species.—*By* G. E. Dobson, B. A., M. B., F. L. S.

To Major H. H. Godwin-Austen we chiefly owe our knowledge of the fauna of these little known hill tracts, and the following list has been almost altogether made out from his collections presented to the Indian Museum. Most of the species were new, or Himalayan forms, while one is a well known European bat.

Fam. *RHINOLOPHIDÆ.*

1. Rhinolophus luctus, Temm.

This species has never, so far as I know, been found in the plains. Indeed all the species of this genus appear to be fond of elevated lands far from human habitations. The genus *Rhinolophus* is the only genus of this large family represented in the colder latitudes, and both species of leaf-nosed bats found in England belong to it. The fur of all the species is remarkably long and dense, evidently in relation to the temperature they live in. In this respect they contrast remarkably with the species of the allied genus, *Phyllorhina*, which are almost confined to the plains and low hill ranges of the tropical and sub-tropical parts of the Eastern Hemisphere.

2. Rh. Yunanensis.

Rh. Yunanensis, Dobson, J. A. S. B., 1872, p. 336.

? *Rh. larvatus*, Milne-Edwards (non Horsfield), Mammif. du Tibet, 1872, p. 248.

Milne-Edwards' species is most probably identical with this, which will probably be found generally distributed throughout the Himalayas and adjoining mountain ranges. A dried specimen in the Indian Museum from Tupai Mukh, collected during the Lushai expedition, belongs to this species.

3. Phyllorhina armigera, Hodgson.

This fine species, first discovered by Mr. Hodgson in Nipal, is almost the only hill-dweller among numerous and widely distributed species of the genus. It is alone surpassed in size by the African *Ph. Commersonii* (*Macronycteris gigas*, Gray), and is the largest Asiatic leaf-nosed bat yet discovered. It extends along the Himalaya into China, and has been found by Mr. Swinhoe at Amoy.

The Khasia Hills are a new locality for this species.

4. Ph. leptophylla, n. sp.

Ears rather large, broad and triangular with subacute tips, the outer margin slightly concave beneath the tip. The upper transverse nose-leaf

small, upper edge simple, narrower than the horse-shoe portion, thin, the three vertical folds in front faintly discernible at base only: the horse-shoe with a small incision in the centre of its front free edge: frontal pore small, placed at some distance behind the transverse nose-leaf.

Wing-membranes from the tibia a short distance above the ankle; interfemoral membrane triangular, the extremity of the tail projecting. Fur and integuments dark throughout.

This species belongs to the same section* of the genus as *Ph. armigera* from which it is distinguished by its considerably smaller size; by the upper transverse nose-leaf being simple, not lobed above as in that species, and by the incised front edge of the horse-shoe which in *Ph. armigera* is invariably plain.

The specimen from which the above description is taken is an adult male preserved in alcohol, obtained in the Khasia Hills by Major H. H Godwin-Austen and sent by him to the Indian Museum.

5. Ph. larvata, Horsfield.

The Indian Museum possesses specimens of this species from the Khasia Hills collected by the late Lieut. Bourne. They differ remarkably in the colour of the fur from the Javanese and Burmese forms. Those from the Khasia Hills are usually very dark without the least reddish tinge; in one specimen, however, an old male with greatly enlarged glandular elevations between the eyes, the fur has a very distinct orange tinge throughout.

6. Ph. fulva, Gray.

This appears to be the most widely distributed species of the genus. It varies remarkably in the colour of the fur and size of the ears, and has consequently received nearly as many names as those of the different countries it inhabits.

Fam. *VESPERTILIONIDÆ.*

7. Vesperus pachyotis.

Vesperus pachyotis, Dobson, P. A. S. B., 1871, p. 211.

This remarkable species, readily distinguished by its peculiar fleshy ears, has not been recorded from any other locality. The original description was taken from two adult specimens, a male and female, preserved in alcohol in the Indian Museum.

8. Vesperugo (Pipistrellus) imbricatus, Horsfield.

This is the commonest bat in India where it takes the place of the European Pipistrelle. Specimens vary much in size according to age and locality; the form of the teeth, especially of the incisors, is also very varia-

* *Gloionycteris*, Gray.

ble, and consequently the species has received a great number of different names.

9. Vesperugo (Pipistrellus) Austenianus.

Pipistrellus Austenianus, Dobson, P. A. S. B., 1871, p. 213.

Major Godwin-Austen has lately sent another specimen of this species which is readily known by its broad straight tragus, and intensely black integuments and fur. *P. affinis*, Dobson, from Yunan, is very close to this species, but there are nine vertebræ in the tail compared with seven in *P. Austenianus*, the tragus is narrower, and the colour of the fur light brown.

10. Nycticejus ornatus, Blyth.

This peculiarly marked bat is the nearest representative of the American genus *Atalapha* (= *Lasiurus*). It is common in the warm valleys about Darjeeling and Dr. J. Anderson found it in the Kakyan Hills, Yunan.

11. Barbastellus communis, Gray.

I can discover no difference between the specimen sent by Major Godwin-Austen and specimens of the common European Barbastelle. It appears to be common in the Himalayas. Specimens have been sent from Másuri by Captain Hutton, and from Simla by Moulvie Ataor Ruhman; those from Simla are preserved in the Indian Museum.

It may be confidently expected that the following species which are generally common in the surrounding countries will be found in the Khasia Hills, namely—*Pteropus medius*, Temm.; *Cynopterus marginatus*, Geoff.; *Cynonycteris amplexicaudata*, Geoff.; *Megaderma lyra*, Geoff.; *Rhinolophus affinis*, Horsf.; *Rh. Garoensis*, Dobson; *Phyllorhina diadema*, Geoff.; *Ph. speoris*, Schr.; *Taphozous saccolaimus*, Temm.; *T. melanopogon*, Temm.; *Vespertilio formosus*, Hodgson; *Kerivoula picta*, Pallas; *K. Hardwickii*, Gray; *Vesperugo annectens*, Dobson; *Vesperus (Tylonycteris) pachypus*, Temm.; *Nycticejus Temminckii*, Horsf.; *N. Tickelli*, Blyth; *Murina harpia*, Pallas; and *M. cyclotis*, Dobson.

Descriptions of new species of Chiroptera from India and Yunan.—*By* G. E. Dobson, B. A., M. B., F. L. S.

Phyllorhina brachyota, n. sp.

Ear comparatively small, as broad as long, inner margin very convex forwards, outer margin slightly concave beneath the tip; nose-leaf as in *Ph. larvata*, Horsf., front surface of upper transverse portion with three very distinct vertical ridges; frontal pore small, indistinct, not larger than that of the females of *Ph. larvata*.

Feet small: wing-membrane from the metatarsus near the base of the toes. Interfemoral membrane rather large, triangular behind; extreme tip of tail free.

Fur, above, light brown at base, the terminal third of the hairs very dark, the extreme tips paler: beneath similar but somewhat paler. The fur on the shoulders and along the spine darker. Ears and wing- and interfemoral-membranes very dark known. Specimens in colourless alcohol appear very dark brown throughout.

The second upper premolar is separated from the canine by a wider interval than usual in this genus; in the midst of this space, but rather to the outside, the small, scarcely distinguishable first premolar is placed.

Length, head and body 1″·95 inches; tail 1″·4; head 0″·75; ear (anteriorly) 0″·5; forearm 1″·75; thumb 0″.25; second finger 2″·7; fourth finger 2″·1; tibia 0″·72; calcaneum 0″·4; foot and claws 0″·3.

The above description is taken from an adult male, preserved in alcohol, obtained by Staff Surgeon F. P. Staples in Central India, and presented by him to the Museum of the Army Medical Department at Netley.

Vespertilio montivagus, n. sp.

Crown of head very slightly elevated; muzzle obtuse: ears narrow, tapering, with rounded tips; outer side flatly emarginate immediately beneath the tip for about quarter its length, then slightly convex, and lower down, opposite the base of the tragus with a small emargination, terminating beyond this in a small rounded lobe; inner margin convex for two-thirds its length, then forming a straight line to the tip; tragus long, narrow, and acutely pointed; inner margin straight, outer slightly convex upwards with a small rounded lobe at the base.

Feet very small, toes two-thirds the length of the whole foot. Tail wholly contained within the interfemoral membrane. Wings from the base of the toes.

Fur, above, dark-brown, the extreme tips paler and shining; beneath much darker, almost black for three-fourths the length of the hairs, the remaining portion ashy. In front the face is everywhere densely covered, the long hairs concealing the eyes and leaving the tip of the nose alone naked: on each side of the muzzle two or three small glandular wart-like elevations may be seen through the hairs. The ears are quite naked anteriorly, posteriorly their bases only are covered. On the wing-membrane the fur of the back extends as far as a line drawn from the junction of the proximal and middle thirds of the humerus to the commencement of the distal third of the femur: on the interfemoral membrane it ceases abruptly at the end of the second caudal vertebra. Beneath the fur extends upon the wing-membrane as far as a line drawn from the elbow to the knee-joint; the interfemoral membrane is covered at the root of the tail, and three fourths of the remaining part is very thinly clothed with the short hairs arising from the transverse dotted lines.

Incisors, on each side, parallel and acutely pointed; inner incisors longest, with a small acutely pointed talon near their extremities on the outer side. In the lower jaw the second premolar is small but distinctly visible, standing in the tooth-row; in the upper jaw the space between the canine and third premolar is small, and the second premolar is very minute, placed interiorly, in the angle between the first and third premolar, and with difficulty distinguishable even with the aid of a lens.

Length, head and body 1″·8 inches; tail 1″·6; head 0″·65; ear 0″·58; tragus 0″·25; forearm 1″·5; thumb 0″·25; second finger 2″·7; fourth finger 1″·9; tibia 0″·6; foot and claws 0″·3.

Habitat.—Hotha, Yunan.

The above description is taken from adult male and female specimens preserved in alcohol, obtained by Dr. J. Anderson during the Yunan Expedition, and deposited in the Indian Museum, Calcutta.

Some Ornithological Notes and Corrections.

By W. Edwin Brooks, C. E.

(Received August 25th, read Nov. 4th, 1874).

Tinnunculus Pekinensis, Swinhoe.

I obtained a mature male, a young male in changing plumage, and an adult female of this species, in April last, near Dinapore. They were, with many others, hovering over the cleared *paddy* land close to the line of railway.

T. cenchris, Naum., it will be remembered, is distinct from the Indian and Chinese species.

Accipiter virgatus, Temm.

J. A. S. B., 1872, p. 73.

Mr. Hume saw the specimen procured in Cashmere by Capt. Cock, and pronounced it to be an old male of *Ac. nisus*, Lin.; in which I believe him to have been correct.

Aquila bifasciata, Gray and A. orientalis, Cab.

With the addition of Mr. Anderson's specimens, I have now eight of the latter species. Four are marked as males, as indeed their small size indicates; the average length of the wing in these is 20·09 inches. Of four males of *A. bifasciata* – the first four I met with—the average of the wing is 20·62 inches, or a trifle more than half an inch difference, which is quite a trifling one for so large a bird as an eagle. The sexing of one of the four females is certainly incorrect: this bird has a wing only 20.75 long: one of the males has the wing 20.50: showing a difference of only 0.25 in. between male and female, which, in an eagle of this size, is far too small; there should have been a difference of 1.50 in. at least. Between the four males and four females of *A. bifasciata* there is an average difference of 2.63 inches; I, therefore, need only contrast the males of each as regards size, using for this purpose only this series of eight of each which I have before me.

One of the objections to my identification of *Aq. orientalis* with *A. bifasciata* was the alleged larger average size of the latter—a question which must be left open till a reliable series of the European bird can be obtained, *i. e*, reliable as regards sex. The European birds were mostly obtained from the dealer Moeschler of Dresden, and there is much doubt about the specimens marked as females, for they approach the males too closely in size.

The other point of supposed difference was the darker tone of plumage of the European bird. With regard to this, I find that the Indian species is quite as dark. In fact, in the series now before me, the balance of darkness

of colour is decidedly on the side of the Indian birds. The European ones, which are spring and summer birds, are more faded. The question of colour may, therefore, be dismissed at once, for in this respect the two species correspond as closely as could be desired, but that of comparative size must stand over till a good series of the European bird is obtained, and for such a series to possess any value the sexes of the birds should have been determined by a naturalist, and not by a mere dealer.

For the present, then, I adhere to my conclusion that the two species are identical; each one having the peculiar buff patch at the back of the head, the strongly banded wings when immature, and a tail barred in precisely the same way—all very strong points in favour of absolute identity.

AQUILA HASTATA, Lesson.

This species is said by Mr. Dresser to differ from the species found in North Europe, in the plumage of the young bird. The adults are said to correspond.

I have two specimens in their first plumage, taken from the nest at Saharunpore, and the following is a description of them.

Irides dark brown; bill black, but lead-gray towards base; cere and gape bright yellow; feet a dull yellow; claws black. Above, dark hair-brown; this dark brown is shaded into quite a brownish-grey on the lower half of the back and upper tail-coverts, the feathers of this lighter portion being dark-shafted; upper tail-coverts barred with white on their outer webs; from top of head and down to nape of neck the feathers are tipped with small fulvous spots; scapulars, ridge and bend of wing, and most of the lesser wing-coverts tipped with fulvous spots of larger size; median wing-coverts similarly pale-tipped, with the lower row having the spots considerably larger (about $\frac{1}{2}$ in. in length): this row of large spots presents the appearance, at a little distance, of a first and slight wing-bar; greater coverts all broadly tipped with dull fulvous white, presenting the appearance of a second and strong bar on the wing; secondaries and tertials broadly edged with greyish-white shaded off into the darker portion of the feather, and these light ends form the third bar on the wing; the dark portion of the wing-coverts and scapulars is of the same dark hair-brown as the back; primaries uniform black and unbarred; secondaries brown, profusely barred with hoary-grey on both webs; the greyish-white ends to the tertials are very broad; cheeks and side of head brown of a paler shade than the top of the head and streaked very faintly with darker; tail-feathers dark brown, tipped broadly with greyish-white, and barred with greyish on both webs; these bars are nearly square to the shaft (Mr. Anderson's young example has not, however, any indication of bars on the tail, except on the two outer feathers, and these nearly obsolete bars are con-

fined to the inner webs); chin, throat, and breast are brown of a shade lighter than the head and upper back and gradually becoming paler lower down, till it passes into dingy fulvous on the lower abdomen and under tail-coverts; from the top of the breast to lower abdomen the feathers have central and terminal stripes of fulvous, the stripes increasing in size towards the legs; the feathers of the lower tail-coverts are slightly, but broadly, barred with pale brown, and the shaft portion forms also a longitudinal brown streak; the appearance of the tail from below is brown, darkest towards the basal portion, and barred profusely with whitish grey; tibial plumes lightish brown spotted with fulvous; tarsus fulvous, indistinctly streaked with pale brown. The primaries, though apparently barless, are, especially the inner ones, when seen from below, obsoletely barred on the inner web. One specimen is much less spotted than the other on the upper portion of the wing, most of the lesser coverts being plain brown, and the small spots being almost confined to the vicinity of the bend of the wing and to its ridge.

Mr. Dresser has promised me an immature bird of the European form for comparison, the result of which will be communicated hereafter.

AQUILA FULVESCENS, Gray and Hardw.

For the last three years no additional examples of this rare eagle have been procured. The African species, *Aquila nœvioides*, Cuv. with which our bird has been confounded, is, I find, subject to some variation as regards the tail. In my remarks on this species (P. A. S. B., 1873, pp. 173-175), I noted the strongly barred tail of the example then before me. Mr. Anderson has since lent me another South African example, a fine adult bird, which is in the moult; in it both *old* and *new* tail-feathers are hoary-greyish-brown, and the indications of bars so faint as to be only perceptible in certain lights. It would thus appear that only some individuals have the tail well-barred like the common Indian *Aquila Vindhiana*, and, consequently, that a barred tail may not always be one of the characteristics of the species. I may note that I have a single example of *Aquila Vindhiana* with an absolutely plain tail; but of the hundreds that I have seen, all, with this single exception, had well-barred tails.

The body plumage of this second example of *Aq. nœvioides* above referred to is of two colours: all the old feathers are light sandy-coloured, while the new ones are foxy-red: the lesser and median wing-coverts, and also the scapulars, are a mixture of purplish-brown of different shades and rufous; the rufous, in most of the feathers, occupying the centre as a broad stripe, but in some cases being confined to one side. The nostril is vertical and of the same oblong form as that of *Aq. Vindhiana*.

I cannot understand how our Indian *A. Vindhiana* came to be con-

founded with the well-marked African *A. nævioides;* no two birds could be more distinct, the foxy-red plumage of the latter being most striking. As far as general tone of colour goes, the African species more resembles *Aquila fulvescens*, Gray in its immature or buff stage; but this last is readily distinguished by its very circular nostril, not to mention other well-marked differences.

AQUILA VINDHIANA, Franklin.

Having seen Ruppell's plate of *Aquila albicans* and read what Mr. Blanford* and Dr. Finsch† say of the North East African species, which they term *A. rapax*, Temm., I strongly suspect its identity with our Indian *A. Vindhiana*. From what I have seen of true *Aquila nævioides* vel *rapax*, I cannot conceive of this bird ever being "pale cream coloured" or "blackish brown;" and a species distinct from *A. nævioides* (and which has been confounded with it) is doubtless found in the Northern portion of Africa. Rüppell's plate of *A. albicans* is the most perfect representation of a pale "Wokhab" that could be desired. A series of North African and Punjab birds should be compared. Mr. J. H. Gurney once told me (*in litt.*) that the identity of the North African Eagle generally termed *A. nævioides* with our Indian *A. Vindhiana* was very probable; and also that Lord Walden had Abyssinian examples of the latter species.

ARCHIBUTEO STROPHIATUS and A. CRYPTOGENYS Hodgs.

Are two entirely distinct species. I have copies of Hodgson's minute drawings of each, with all details of bills and feet. Although both are of similar size, the latter is a much feebler bird and more of a Buzzard; it has a very much smaller foot, a more slender tarsus, and a much smaller bill, and while *A. strophiatus* has the nostril free, *A. cryptogenys* has it partially hidden by plumes. The plumage of the two birds is also entirely different. Neither, I should remark, bears the faintest resemblance to *Aquila pennata*, which is only two-thirds of the size of Hodgson's two species, so that if a specimen of the last-named in the British Museum, said to have been sent by Hodgson, is labelled *A. strophiatus*, it could not have been so labelled by Hodgson, who cannot be held responsible for what is probably due to Museum blunders, and who anyhow knew the Booted Eagle too well to apply the name of *strophiatus* to it.

MILVUS PALUSTRIS, And.

P. A. S. 1873, pp. 142—147.

Mr. Anderson authorizes me to withdraw this species. I have procured a considerable series of the common Indian village Kite (*M. affinis*, Gould),

* Zoology and Geology of Abyssinia, p. 295.

† Trans. Zool. Soc. Lond., 1870, p. 201.

and there appears to be but little doubt that *M. palustris* is this bird in either second or third plumage.

As before observed, *M. Govinda*, Sykes is the larger Kite which comes to the plains of India in the cold weather. The large dimensions given by Sykes render it certain that he described the larger species, for no common village Kite reaches the length of 26 inches. It is also pretty clear that Sykes did not contemplate there being two affined Kites, both of them found in the country in which he worked.

Mr. Gurney has informed me that the two types are of different sizes; but regardless of the types, neither of which in this instance may have been the very one from which Sykes described, I think we should hold to the original description, which describes a large 26-inch Kite. And in this case *Milvus major*, Hume and *Milvus melanotis*, Temm. and Schleg. become synonyms of *Milvus Govinda*, Sykes.

I possess a common Indian village Kite, returned to me by Mr. Gurney as being feather for feather identical with the Australian species, *M. affinis*, Gould. This identical bird is the commonest form of the resident species distributed so widely over India; and I think, therefore, that our common Kite should in future be known by its correct name of *M. affinis*.

At Mussoorie, both species are to be seen during the spring and summer, but more in the interior of the hills only the large species, *M. Govinda*, is met with. A few breed at Barahaut on the Bhaugaruttee.

Pernis cristata, Cuv.

A young bird from the nest which I once kept in confinement, had the breast of a rather light earth-brown, each feather having a black central stripe. Even in this young bird the crest was well developed.

The dark-plumaged birds are the fully adult ones. I have one shot from the nest in this plumage, and all I saw at Saharunpore in July, where they had their nests in trees near the canal, were of this dark plumage. In speaking of the young bird, I should have mentioned that the upper plumage was a very dark clove-brown.

Hirundo Daurica, Lin. and H. erythropygia, Sykes.

I only met with the latter species in cishimalayan Cashmere, as far up as Chungus on the Tawi river. At Mussoorie, Simla, and Almorah, and also at Binsur, north of Almorah, the strongly striated species with paler rump-band (*H. Daurica*) prevails. It is also somewhat larger than *H. erythropygia*. I have procured both in the plains in the cold weather, but the hill bird is there very much scarcer. *H. erythropygia* breeds near Chunar, and at most places in the North-West Provinces where there are old buildings or quarries suitable. The eggs are laid at the commencement of the rains. At Mussoorie, I saw a nest of *H. Daurica* on the ceiling of

a bath-room in Col. Macdougall's house. The birds went in and out through a broken pane of glass. Other nests were affixed to the underside of the roofs of servants' houses belonging to a house at the south end of Mussoorie. The doors being generally left open, the place just suited the swallows, which were only shut up with their nests at night. The young were hatched in the beginning of July, so that the eggs must have been laid towards the latter part of June. I have, however, seen eggs of this species at Almorah in the end of April.

Hemichelidon Sibirica, Gmel.

H. fuliginosa, Hodg.

I have referred to this species in J. A. S. B., 1872, p. 75. It is now known by its older term of *H. Sibirica*, Gmel. I compared my examples with one of Hodgson's in the Indian Museum, and found them identical. Hodgson's dimension (2¾ in.) for the wing refers to the minimum size; the range of variation in length of wing is greater than I supposed possible in such a small bird, viz. 2.75 to 3.05 in. What the small species referred to by me in J. A. S. B., 1872, p. 76 was, I have no means of ascertaining. I remember it well, and still have Mr. Hume's letter concerning it, written at the time, when he assured me that Hodgson's species was not the one commonly received as such.

Alseonax terricolor, Hodgs. and A. latirostris, Raffles.

Mr. Hume considers these species identical, and in writing of the former always terms it *A. latirostris*, under which name he has figured it in 'Lahore to Yarkand.' Mr. Swinhoe* identifies *Muscicapa cinereoalba*, Temm. and Schleg. with *Alseonax latirostris*, Raffles. Having examined the Chinese species *M. cinereoalba*, I find it distinct from *A. terricolor*, by its shorter tail and rather differently shaped and somewhat broader and shorter bill, which is also blacker towards the tip than in the other bird. *Alseonax latirostris* is without doubt one of these two closely allied birds; and the question is, Which of the two agrees with Raffles's type and description? Mr. Hume appears to think that because *A. terricolor*, Hodgs. has been procured in the country from which Raffles described his *A. latirostris*, it is therefore Raffles's species; but the other bird, which is a common species in China, may also occur in Sumatra in winter.

I do not know whether Mr. Swinhoe was correct in uniting *A. cinereoalba* and *A. latirostris*, and whether he compared his examples of the former with the type or not; and the subject requires thorough investigation, for Mr. Swinhoe† speaks of the Chinese bird as being "identical with the Indian species."

* Proc. Zool. Soc. Lond., 1871, p. 325. † P. Z. S., 1863, p. 288.

I know for a certainty, from close comparison, that Mr. Swinhoe's examples of *M. cinereoalba* in the Indian Museum are not identical with the Indian species *A. terricolor*, and I have indicated the points of difference. This identification of his makes me very much doubt that of *A. cinereoalba* with *A. latirostris*. Apparently he has not noted the difference between *A. terricolor* and *A. cinereoalba*.

I fail to see any grounds whatever for Mr. Hume's identification in the fact that both he and Lord Walden have *A. terricolor* from the locality whence Raffles obtained his species; and the question, What bird is *Alseonax latirostris*? must be regarded as at present an unsettled one.

ERYTHROSTERNA PARVA.

J. A. S. B., 1872, p. 76.

The bird I observed in Cashmere should be *Erythrosterna hypery-thra*, Cabanis, distinguished from *E. parva* by having a band of velvet-black down each side of the neck and edging the red of the throat and breast. This full breeding-plumage is assumed after the birds have left the plains. In the cold weather when they re-appear, they have lost the black band; but the old males retain the red breast. In this plumage it has been mistaken for *E. parva*, which for the present should be expunged from the Indian list.

ERYTHROSTERNA ALBICILLA, Pallas.

Erroneously termed *E. leucura* by Blyth and Jerdon, this species having a western limit at about Buxar or Ghazeepore and being replaced in the North-West by the aforenamed species. The black wings and tail of *E. albicilla* and its colder and greyer plumage readily distinguish it from the other when in immature or female plumage; it is not nearly so often procured with a red throat, and even then the red does not extend down the breast as in the other species, but is confined to the throat.

ACROCEPHALUS STENTOREUS, H. and E.

Acrocephalus brunnescens, Jerdon, Ibis, 1874, p. 49.

Lord Walden* considers the Cashmere species to be distinct. I have seen many both in Cashmere and in the plains of India, and the birds are perfectly identical. The very peculiar and loud voice is alone sufficient to identify the bird by, whether in the plains or in Cashmere. It varies somewhat in size and in tone of colour; the latter depending upon the season of the year. Our plains' birds are only with us during the cold weather, leaving in the spring. Cashmere is the nearest breeding-place, but the great majority of the birds probably go farther north. I should also remark that in this species length of bill, wing, and tail is variable.

* Trans. Zool. Soc. Lond., 1872, p. 64.

ACROCEPHALUS DUMETORUM, Blyth.

I saw a few of this species near Mussoorie on June 1st frequenting dense rose-thickets at about 7000 feet elevation. Whether they would have remained there to breed or gone further north, is a question to be solved. Capt. Hutton is said to have taken the eggs near Mussoorie. The males were not singing, as they usually do vigorously when the nest is built.

DUMETICOLA AFFINIS, Hodgs.

Is subject to variation as regards being spotted or not, just as is *D. major*, Brooks. I obtained one or two unspotted examples of the latter; they were breeding males, too, and in full song. Mr. Hodgson was aware of the variation, and hence figures *D. affinis* as unspotted, but describes it as spotted. The female of neither species has been recorded; that sex in both is probably unspotted. I never obtained a female of *D. major*.

DUMETICOLA BRUNNEIPECTUS, Blyth.

Referred to by Mr. Blanford in J. A. S. B., 1872, p. 164. I examined this bird, and found it to be *D. affinis* in the unspotted stage. I would suppress Blyth's *D. brunneipectus* altogether as a species, considering it but *D. affinis*, Hodgs.

TRIBURA LUTEOVENTRIS, Hodgs.

I examined the specimen referred to by Mr. Blanford* and found it also to be *Dumeticola affinis*, Hodgs. in the unspotted plumage. *Tribura luteoventris* has a longer head, measured from the back of the skull to the tip of the bill, which latter is also of a different shape. The specimen in the Indian Museum is so old and faded that the original colour cannot be recognized; nor can the forms of wing and tail be ascertained.

NEORNIS FLAVOLIVACEA, Hodgs.

I have this species, and it is a greenish olive above. Hodgson's drawing, No. 900, does not represent it, as stated by Mr. Hume,† but is applicable to *Horornis assimilis*, Hodgs., as stated by Gray.

PHYLLOSCOPUS PALLIDIPES, Blanford, J. A. S. B., 1872, p. 162.

Is not a *Phylloscopus*, but a true *Horeites*. I have examined the type: the second quill is equal to about the sixteenth; third equal to eighth; the first, second, third, and fourth are graduated, the distance from tip to tip of each feather diminishing till the fourth is reached. This is a very rounded wing, such as is not possessed by any *Phylloscopus;* in the wing of which genus there is always a long space

* Journ. As. Soc. Bengal, 1872, p. 164. † Stray Feathers, 1873, p. 444.

between first and second quills, and the second is equal to from fifth or sixth to eighth or ninth, according to the species. The tail, too, of *Horeites pallidipes* is much rounded and *non-phylloscopine*. A further difference between *Phylloscopus* and *Horeites* lies in the fact that the former has twelve tail-feathers and the latter ten. I cannot see any generic distinction between *Horornis* and *Horeites*; *Neornis* also appears to be the same with a better developed tail.

PHYLLOSCOPUS MAGNIROSTRIS, Blyth.

Mr. Hume* tells us that this bird is identical with *P. borealis*, Blasius (*P. sylvicultrix*, Swinhoe). I examined the Chinese examples of the latter, in the Indian Museum, and found the following differences:

1. *P. borealis* has a minute first primary, as in *P. sibilatrix*, Bechst, while *P. magnirostris* has a much larger one, as in *Hippolais Rama*, Sykes.

2. The wing of *P. borealis* is of a different shape from that of *magnirostris*, being more pointed, with the 2nd quill intermediate between the 5th and 6th; while *P. magnirostris* has a wing much more rounded in form, the 2nd quill being equal to about the 9th.

Such differences as these are fatal to identity.

CULICIPETA CANTATOR, Tickell.

I examined the specimen referred to by Mr. Blanford† and found it to be *Reguloides viridipennis*, Blyth, and to agree perfectly with the types in the Indian Museum. *C. cantator* is a very different bird, and is correctly described by Jerdon.

REGULOIDES VIRIDIPENNIS, Blyth.

May be described as a small and brightly coloured *Reg. trochiloides*, Sundevall. Small examples of *Reg. trochiloides* are very difficult to separate from *Reg. viridipennis*.

REGULOIDES MACULIPENNIS, Blyth.

Mr. Hume‡ identifies this species with *Reg. chloronotus*, Hodgs.; against which I do protest. I also have seen Hodgson's drawing referred to by Mr. Hume and could not come to such a conclusion. Hodgson's types of *chloronotus* have been identified by Blyth and others with *Reg. proregulus*, Pallas. The drawing referred to is one intended to represent the nest, which by the bye is that of an *Æthopyga*, and we have no evidence that Hodgson distinguished between his *Abrornis chloronotus* and *Reg. maculipennis*, or that he knew the latter species at all. Such an identification from this slightly coloured drawing cannot be admitted. Hodgson sometimes over-

* Stray Feathers, 1873, p. 494.

† Journ. As. Soc. Bengal, 1872, p. 163.

‡ Stray Feathers, 1873, p. 494.

coloured and sometimes under-coloured. Take his *Lophophanes dichrous:* the drawing is far too red, and it would be impossible to recognize the species intended from it. So also with his *Parus Œmodius:* it was this very faulty drawing, omitting the crest and the wing spots, that led me to describe *Lophophanes Humei* (J. A. S. B., 1873, p 57), which must henceforward stand as *Lophophanes Œmodius*, for Blyth made out that the type of *Parus Œmodius* was not a *Parus* but a *Lophophanes*. Many of Hodgson's drawings are very good, especially those in which he had evidently superintended the work and given minute details, but others, such as that of the supposed *Reg. maculipennis*, are insufficient for the determination of such birds as the *Phylloscopi*, which, as a rule, resemble each other so much in size and colour.

I also examined the specimen referred to by Mr. Blanford in J. A. S. B., 1872, p. 162, and found it to be *Reguloides maculipennis*, Blyth; as also was *Reguloides* sp.? mentioned on the following page of the same Journal.

BUDYTES FLAVA, Lin.

B. CINEREOCAPILLA, Savi.

B. MELANOCEPHALA, Bonaparte.

Under the term *Budytes viridis*, Scop. Lord Walden* makes great confusion. He says, "One example in winter plumage, olive green above, upper part of breast sulphur yellow, rest of under surface pure white; some of the ventral and under tail coverts dashed with sulphur yellow. Supercilium conspicuous, broad, and pure white. Agrees perfectly with examples from Continental India."

This bird is, of course, *Budytes flava*, the characteristic of which is the *broad* white supercilium. Again he says,† "*Motacilla flavescens*, Stephens, Gen. Zool. Aves. X, p. 559, is enumerated in the 'Hand list' by Mr. G. R. Gray, as a distinct species, with the habitats of the Moluccas, Celebes, Timor and Java, assigned. Stephens gave this title to Buffon's Bergeronette de l'ile de Timor Hist. Nat. V. p. 275. Buffon's bird belongs to that phase of plumage of *B. viridis*, (Gm.) in which the superciliary stripe is yellow, the upper plumage ash coloured, and the under yellow." When the male of *B. flava* has newly moulted in the spring, the supercilium is sometimes strongly tinged with bright yellow, as are the margins to the white wing-coverts and tertials; this yellow rapidly fades away leaving the feather pure white: the yellow tinge on the white wing margins is a regular occurrence, but that on the supercilium is accidental or, I should

* Trans. Zool. Soc., 1872, p. 65.

† In a memoir 'On the Birds of Celebes,' Trans. Zool. Soc. Lond., Vol. VIII, part 2, 1872, p. 65.

rather say, occasional and not specific. Of the many hundreds of examples examined by me, only three had this yellow bloom on the supercilium. Lord Walden, however, speaks of the bird as being *ash-coloured* above! The ash-coloured back in the field-wagtails pertains only to the young and, perhaps, to the female in winter plumage. When the supercilium is *yellow*, the back is *green* in *B. flava*. Stephens' bird was probably the female of *Budytes citreola*, Pallas or the male in autumnal plumage, for this species has a yellow supercilium and an ash-coloured back; which *B. flava*, *B. cinereocapilla*, and *B. melanocephala* certainly have not.

There are four distinct yellow field *Budytes* with olive green backs, and I note them, with short distinguishing characters of the mature male.

B. flava.	Grey head, broad white supercilium, grey and white cheeks.	Generallly distributed over the old world and northern half of the new.
B. cinereocapilla.	Dark grey head, supercilium absent or else very narrow and white; often only a half supercilium behind the eye; cheeks a dark slate colour or almost black. This dark cheek is the well marked peculiarity of the species.	Eastern Europe, India, and China.
B. melanocephala.	Pure black head, with very rarely indeed a supercilium, and then very narrow, like a thin white thread. I have twice seen examples with this thread-like supercilium. The black head is a good distinction.	Eastern Europe, India, and China.
B. Rayi.	Top of head yellowish olive, supercilium bright yellow, and cheeks yellow.	Western Europe, North-West Africa, and Central Asia.*

It will thus be seen that the colour of the cheek in summer is alone a sufficient criterion.

It seems inexplicable to me how so many good ornithologists have confounded these four very distinct species, and lumped them together as *B. flava* with varieties, or as *B. viridis* with varieties.

There are but two yellow-headed marsh wagtails found in all India, and, I believe, in all the world besides, viz. *Budytes calcaratus*, Hodgs.—with black back and yellow head, sometimes a greyish patch remaining on the lower back; and *Budytes citreola*, Pallas—with grey back and yellow head, also generally a crescentic black band above the shoulders at the hind part

* Two examples of this species, as also of *Anthus pratensis*, were lately obtained by Dr. Stoliczka in Yarkand.

of the lower neck, but this is sometimes absent, even when the bird is in full plumage. *B. citreoloides*, Hodgs. is identical with this latter species, and not with the former, as Mr. Hume supposes in 'Lahore to Yarkand.' Hodgson's drawing represents a yellow-headed wagtail with a grey back. The back feathers are always more or less changed when the head in spring becomes pure yellow; Hodgson's drawing thus shewing a uniform grey back with the yellow head, is clearly a representation of a male *B. citreola*. When the other species, *B. calcaratus*, Hodgs., attains the yellow head, the back is either blotched largely with jet-black or is entirely black. It is therefore an utter impossibility for Hodgson's *B. citreoloides* to have been the black backed bird.* *B. citreoloides*, Hodgs. is a synonym of *B. citreola*, Pallas, and as such should sink into disuse. Hodgson's drawing of *B. calcaratus* is lifesized, and represents the bird in winter plumage with yellow supercilium, olive cap, and grey back. In this plumage it closely resembles *B. citreola* in its winter plumage. It is *by the long tarsus alone* that I connect *B. calcaratus* with the black-backed bird. The tarsus of *B. citreola* never reaches the size given by Hodgson for *B. calcaratus;* both in the drawing and in the table of dimensions, the length of the tarsus given is that of the largest black-backed birds I have procured. In 'Lahore to Yarkand' Mr. Hume appears to consider Hodgson's description as inapplicable to the black-backed species; but I cannot see in what respect it does not suit. It should be remembered that Hodgson measured the tarsus from the sole of the foot, and not from the junction of the toes, the latter being the usual mode of measurement.

The females of all the six species I have noted, have their characteristics, but it would add too much to the length of this paper to introduce them now; enough to say that they abundantly confirm my view of the distinctness of each.

These wagtails can only be properly worked out by the field observer, and the confusion into which cabinet naturalists have thrown them is thus easily accounted for.

Motacilla Cashmiriensis, Brooks.

Is only *M. Hodgsoni*, Gray in full summer plumage. Having had abundant opportunities of again observing this bird up the valley of the Bhagaruttee, I am forced to the above conclusion.

I formerly thought that *M. Hodgsoni*, Gray and *M. personata*, Gould were identical, the former being the latter in breeding plumage: but having lately had the advantage of Mr. Mandelli's fine series of *M. Hodg-*

* Gould in his 'Birds of Asia' has misapplied the term to the black backed yellow headed Wagtail.

soni, showing that the adult male retains its black back during the autumn and winter months, it is impossible to avoid the conclusion that the two species, though closely affined, are thoroughly distinct.

M. Hodgsoni may be described as a black-backed *M. personata*. Each species has the eye set in a diamond-shaped white patch, which even in young grey and white birds of the year is conspicuous; so that neither should ever be confounded with *M. luzoniensis* or *M. Dukhunensis*.

Old females of *Hodgsoni* have black backs like the males; but younger birds, as I take them to be, often have the back grey, but of a more dusky shade than that of *personata*, which has the back of a pure light grey. Some females of *Hodgsoni* have the grey clouded with black to a slight extent, especially on the upper portion of the back.

A parallel case of specific distinctness existing only in the colour of the back is that of *Budytes calcaratus*, Hodgson and *Budytes citreola*, Pallas; the former of which has a jet black back in the breeding season, while the latter has invariably a grey back, with generally a black half collar at the lower part of the hind neck during the breeding season. I refer to the males only, for the females are very similar to one another.

Motacilla Luzoniensis, Scop.

The western limit of this species appears to lie between Dinapore and Buxar, in the districts in which I have been placed. The old males, to a great extent, retain the black back during autumn and winter, and even the old females are somewhat patched and clouded with black at these seasons. The chin and throat is always white, and *the white band down the side of the neck*, as in *M. Dukhunensis*, is invariably present at all seasons. This white band communicates with the white surrounding the eye. In *M. personata*, the eye, at all seasons, is set in a diamond-shaped patch of white, which is bounded below, as well as above, by black; this white eye-patch has thus no communication with the white of the lower parts, and is the characteristic by which this species may at any time be easily known, when obtained in the plains.

Mr. Hume has pointed out to me that Dr. Jerdon's description of *M. Dukhunensis* is only applicable to *M. personata*, Gould, and this, as is proved by his appendix, was Dr. Jerdon's own conclusion; but in his description, the statement that "the neck all round is black" does not agree with another that in its winter dress it is barely distinguishable from *M. Luzoniensis*. *M. personata* is at all times conspicuously distinct from *M. Luzoniensis*. Dr. Jerdon's description of *M. Dukhunensis* is, however, not sufficiently definite to fix the species intended, neither is the original description by Sykes, except for the statement that "it very closely resem-

bles *M. alba* of Europe, but differs in being of a light slate or cinereus, and in the wing coverts and secondaries being edged with broader white" (P. Z. S., 1832, p. 91).

Anthus agilis, Sykes.

Was said by Blyth to be apparently *Anthus trivialis*, Penn. (= *Anthus arboreus*, Bechst). In the original description, Sykes says, "found on open stony lands;" but I think it probable, as it is the only *Anthus* noted by him, that his *agilis* was either *Agrodroma campestris*, Lin. or *Corydalla rufula*, Vieill. These pipits do affect stony and waste lands, as does *Corydalla striolata*, Blyth, but neither of the tree-pipits do, least of all *P. maculatus*, Hodg.,* to which Sykes's term *agilis* has most unaccountably been applied: the most arboreal of all pipits certainly is never found on "open stony lands." I think it would be almost safe to conclude that Sykes's bird was one of the three I have named, viz. either *Ag. campestris* juv. with spotted breast or *C. rufula* or *C. striolata*. I am most inclined to the last. I am weary of hearing ornithologists speak of the green Chinese tree-pipit as *P. agilis*, Sykes, the application of the name to it being absurd.

Alauda Deva, Sykes.

Spizalauda Deva Blyth.

I do not see any grounds whatever for separating the genus *Spizalauda* from *Alauda*, and I think the term should be abandoned. *Spizalauda simillima*, Hume is as true an *Alauda* in every respect, in colour of plumage, in voice, and in habits, as could be desired. It is rather small and this is all that can be said.

Sykes says of his *Alauda Deva*, that it is smaller than *A. Gulgula*, but *Alauda Malabarica*, which Mr. Hume would identify with *Alauda Deva*, is not smaller than *A. Gulgula*, but fully the same size, or if anything a larger and finer lark; Sykes's species is therefore the small one which Mr. Hume separated (J. A. S. B., 1870, p. 120) as *S. simillima;* and the last term becomes a synonym of *Alauda Deva*, Sykes. I have seen many of this last, including some brought by bird-catchers from localities well to the south and west, and there is but one species which is smaller than *gulgula*, and this is the true *Alauda Deva* of Sykes. The Khandalla large crested lark, *A. Malabarica* Scop., will stand as such till the contrary be shewn, and my *Alauda australis* of the Neilgherries (Stray Feathers, 1873, p. 486), which is a fine large non-crested rufous toned *Alauda*, will stand until an older name can be shewn as clearly pertaining to it.

* In J. A. S. B., 1873, p. 83, line 24, for "*never* strictly arboreal, read "*more* strictly arboreal."

ALAUDA DULCIVOX, Hodg.

Of the unfair identification of this species with *A. arvensis* of Europe, I shall say nothing more, but will leave those that have good eyes for form and colour to decide for themselves, when they have an opportunity of comparing specimens of each: I repeat that they are most thoroughly distinct, and that *A. arvensis* is *non-alpine* or *non-monticolous*. The colour and form of bill is different, the colour of the legs and feet is different, to say nothing of the different body plumage and almost total absence of rufous on the greater wing-coverts. There is the utmost difference that can be expected in birds of such similar plumage as larks.

CORVUS CULMINATUS, Sykes and C. INTERMEDIUS, Adams.

These two crows, though very similar in general appearance, are nevertheless quite distinct. As a rule the latter has a decidedly (*by fully an inch*) longer tail and is a bird of duller plumage. The voice of the hill bird, too, is notably different, being a much deeper toned and more hollow sounded croak. This great difference in the note strikes most observers on first going to the hills. For a time, I was inclined to believe with Mr. Hume in the identity of the two species, but having examined a good number of each and having paid great attention to the voices and manners, I am entirely convinced of their specific distinctness.

SCOLOPAX RUSTICOLA.

It was a mistake to include this bird among those that breed in the Cashmere Valley (J. A. S. B., 1872, p. 86). It breeds among the pines on the mountain sides, high up near the snows.

On the occurrence of a Superorbital chain of Bones in the Arboricolæ (Wood-partridges).—*By* James Wood-Mason *of Queen's College, Oxford.*

(Received April 20th; read March 4th, 1874.)

(With Plate II).

In his elaborate paper 'On the Osteology of the Gallinaceous Birds and Tinamous' read before the Linnean Society on November 25th, 1862, Professor W. Kitchen Parker announced the remarkable discovery, in *Tinamus robustus*, "of a whole row of super-orbital bones, the like of which must be sought for, not amongst birds, but in a group of creatures a long way down in the scale," *viz.*, in the Skinks and Blind-worms. Further on in the same paper, the presence of a similar chain of superorbitals in *Psophia crepitans*, "only in an enfeebled form," is mentioned. The same author, in a memoir 'On the Structure and Development of the Skull in the Ostrich Tribe' read before the Royal Society on March 9th, 1865, records the occurrence of a double row of these bones extending all along the superorbital margin from the lacrymal to the post-frontal process in *Tinamus variegatus*.

I have now to announce the occurrence of a similar chain of ossicles in four out of the eight recognized species of *Arboricola*, a genus of Indian Partridges, *viz.*, in *A. torqueola*, *atrogularis*, *rufogularis*, and *intermedia*; and I look forward with especial interest to the examination of skulls of the two of the remaining species which have been referred by some authors to the subgenus *Peloperdix*, and which inhabit the Tenasserim provinces and the Malay peninsula.

Mr. Parker has pointed out how in the Lapwing (*Vanellus*) the frontal in the young bird sends out square denticles of bony substance under and beyond the nasal gland, which coalesce with one another, with the lachrymal in front, and with post-frontal process behind, so as to form beyond the gland a secondary frontal margin, which acts as a smooth eave to the eyeball; and that the superorbital chain of bones in the Tinamou takes the place of this secondary frontal margin and the denticles in the Lapwing, the same end being attained by different means. But in the Arboricolas the arrangement is totally different: in them the margins of the combined frontals so far from being bevelled or scooped for the reception of the nasal gland are rather prominent and the internal edges of the ossicles composing the chain come into close relation of apposition with them.

I have examined a considerable number of species of Gallinaceous birds, small and great, including, by the kindness of my friend Major Godwin-Austen, a species of *Bambusicola*, but have hitherto failed to detect so much as a single grain of bone in the superorbital membrane of any one of them.

The *Arboricolas*, I may add in conclusion, differ from all in not having the temporal fossa bridged by bone, the zygomatic process of the squamosal being quite rudimental.

Explanation of Plate II.

Fig. 1. Upper view of skull of *Arboricola rufogularis*, nat. size.
Fig. 2. Side view of the same skull, nat. size.
Fig. 3. Upper view of skull of a young individual of the same species, nat. size.
Fig. 4. Side view of the same skull, nat. size.
Fig. 5. Upper view of skull of *Tinamus robustus*, magnified two diameters. (After Parker).
&c. Superorbital chain of ossicles; *l.* lacrymal; *p. o.* postorbital process; *s. o. m.* unossified portion of superorbital membrane.

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ADDITIONS AND ERRATA.

Page 46, 17 lines from top of page, *after* words "*D. elongata*, Miq.," *add* words "Fl. Ind. Bat. I /2. 12;" and 21 lines from above, *for* "t. 9293," *read* "t. 92—93."

Page 57, 8 lines from top of page, *after* words "slopes of," *add* word "the;" and *after* "Pegu" *add* "Yomah."

Page 61, 4 lines from top of page, *transfer* the passage "2. C. LINNÆANUS, (*Menispermum hirsutum* L. sp. pl. 1469 Roxb. Fl. Ind. III. 814; *Menispermum myosotoides*, L. l. c.; *Cocculus villosus*, DC. Syst. I. 525; Hf. and Th. Ind. Fl. I. 101).

HAB. Frequent in hedges, shrubberies, etc., around villages all over Pegu and Prome; also Ava. Fl. Jan. Febr.

3. C. INCANUS, Colebr. in Linn. Trans. XVII. 57; Scheff. Obs. Phyt. III. 76, t. 10. (*Pericampylus incanus*, Miers in Tayl. Ann. ser. 2. VII. 40 and Contr. Bot. III. 118; Hf. and Th. Ind. Fl. I. 102; *Menispermum villosum* Roxb. Fl. Ind. III. 812).

HAB. Frequent in savannahs, mixed and other deciduous forests all over Burmah from Chittagong, Ava, Pegu, and Martaban down to Tenasserim, up to 3000 ft. elevation. Fl. March," *to* the bottom of the following page.

Page 63, 3 lines from the bottom of the page, *for* "edition," *read* "issue;" and 5 lines from the bottom, *after* "t. 940," *add* "Jenk. Pl. Ind. 20. t. 19."

Page 67, 18 lines from top of the page, *for* "Roxb.," *read* "Rchb."

Page 74, 17 lines from top of page, *erase* the marks × × and *substitute* * *.

Page 76, 6 lines from bottom of page, *after* word "Seeds," *add* word "usually."

Page 85, 6 lines from top of page, *after* "257," *add* "(*C. biflorus*, Turcz. in Bull. Mox. 1863. 580)."

Page 103, 15 lines from top of page, *for* "*S. glutinosa*," *read* "*S. Mysurensis*."

Page 104, 4 lines from top of page, *restore* "*S. Mysurensis*, W. A.," and *reduce* "S. GLUTINOSA, Roxb. (non Cav.)" to a synonym; and 11 lines from top of page, *for* "ALBUTILON," *read* "ABUTILON."

Page 105, 3 lines from top of page, *for* "Capsules," *read* "Carpels."

Page 121, 8 lines from bottom of page, *after* "374," *add* "*W. longiramea*, Turcz. in Bull. Mosc. 1863, 571."

Page 125, 4 lines from top of page, *for* "*," *read* "×;" and 20 lines from the top, *for* "*G. scabrida*," *read* "*G. acuminata*."

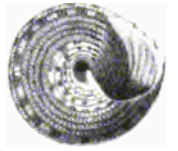
Page 126, 16 lines from top of page, *substitute* "G. ACUMINATA, Tuss. in Ann. Mus. IV. 91. t. 48," and *reduce* "G. SCABRIDA, Wall" to a synonym; and 5 lines from the bottom, *for* "IV," *read* "1111."

Page 187, 17 lines from top of page, *after* "1/2," *add* "poll."

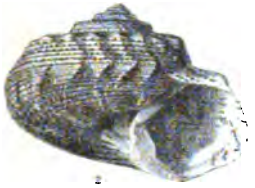
Page 206, 10 lines from top of page, *add* the words "Mr. Homfray of Port Blair has since informed me that this palm makes a trunk 8-12 ft. high, and that the leaves are there proportionally smaller. It is found also in the vicinity of Port Mouat."


1.


1 a.


3.


3 a.


2.


2 a.


4.


4 a.


5.


5 a.


9.


9 a.


8.


8 a.


10.


15.


14.


6.


11.

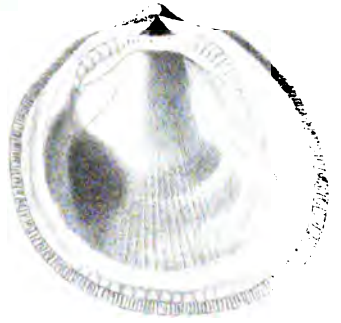

7.


7 a.


13.


12.

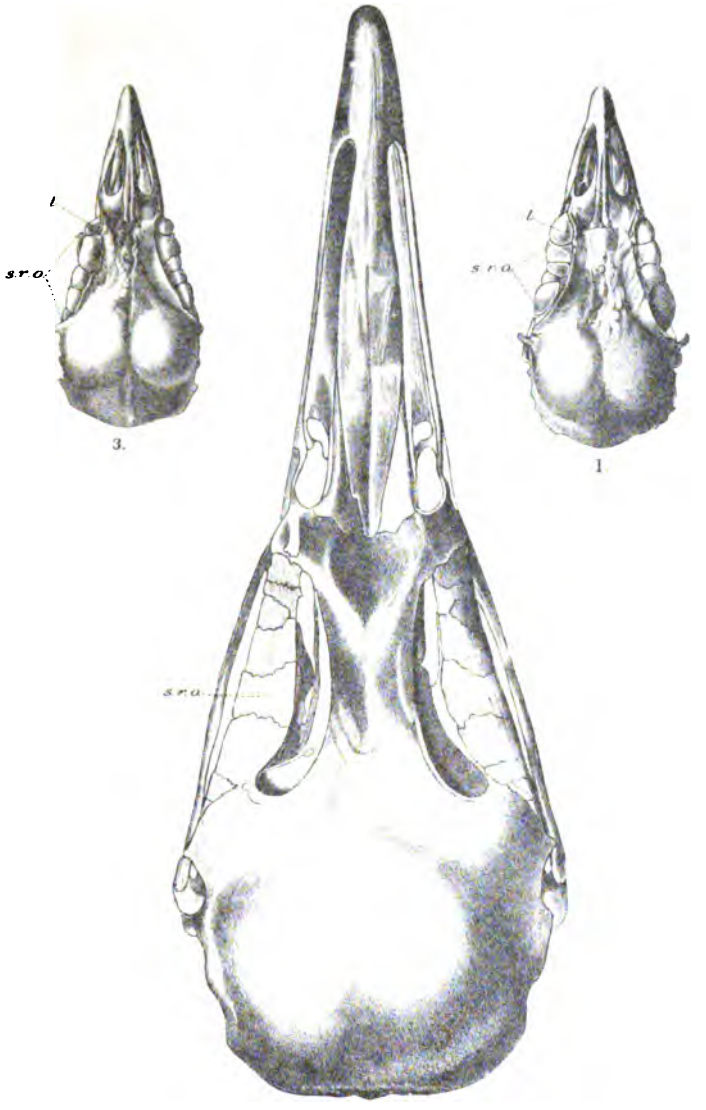

16.


17.

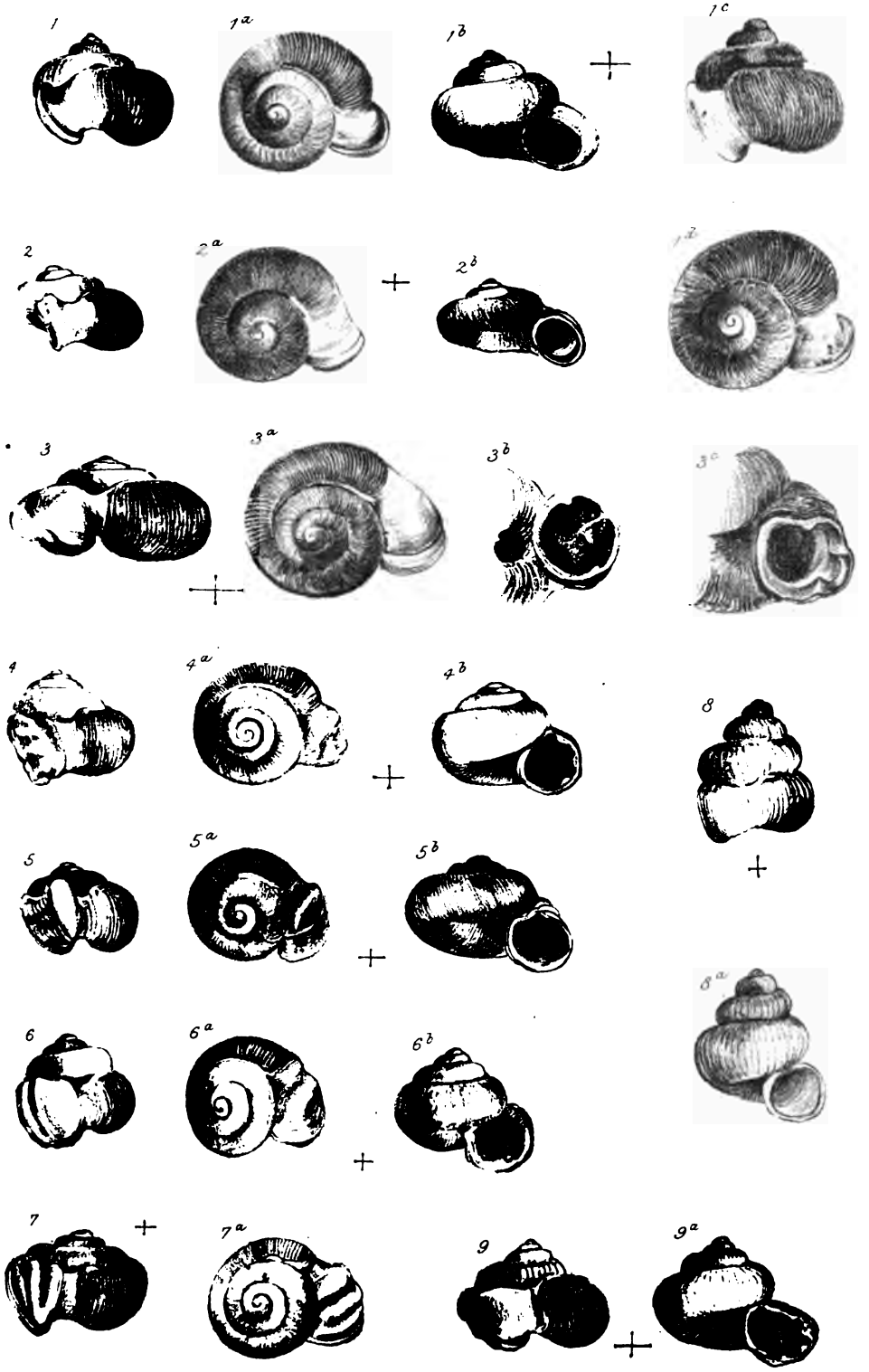

16. a.

1. *Trochus Masoni*.
2. *T. Warnsfordi*.
3. *T. Tonnerra*.
4. *T. casta*.
5. *Nassa callospira*.
6. *N. stictoidea*.
7. *N. sinusigera*.
8. *N. Stoliczkana*.
9. *Mitra Cornea*.
10. *Eulima murifica*.
11. *Cithara amabilis*.
12. *Scutus abnormis*
13. *Rissoina perexcavata*
14. *R. exarata*.
15. *R. minuta*
16. *Pectunculus planatus*

17. *Limopsis compressa*.



Jules Schaumburg Lith:



AIYCAH, NAGA HILLS, AND ASSAM.



Edwin Austen del



J. Smit. lith M&N Hanhart imp

LAYARDIA ROBIGINOSA.



GARRULAX ALBOSUPERCILIARE

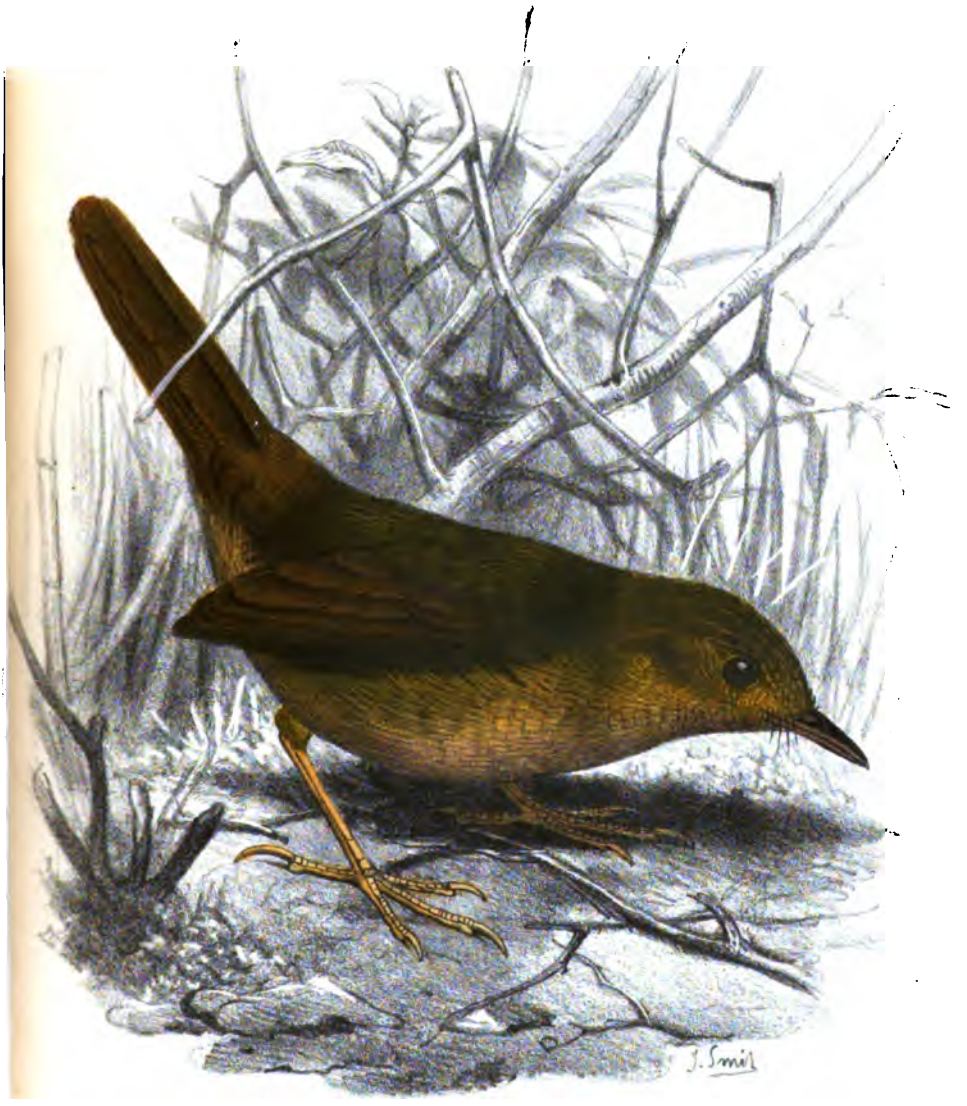
Godwin-Austen, del.

Maclure & Macdonald, imp



SIBIA PULCHELLA.

Godwin-Austen, del. Maclure & Macdonald, imp.



M & N Hanhart imp.

TURDINUS CAROENSIS



G. Edwin Watkins del.

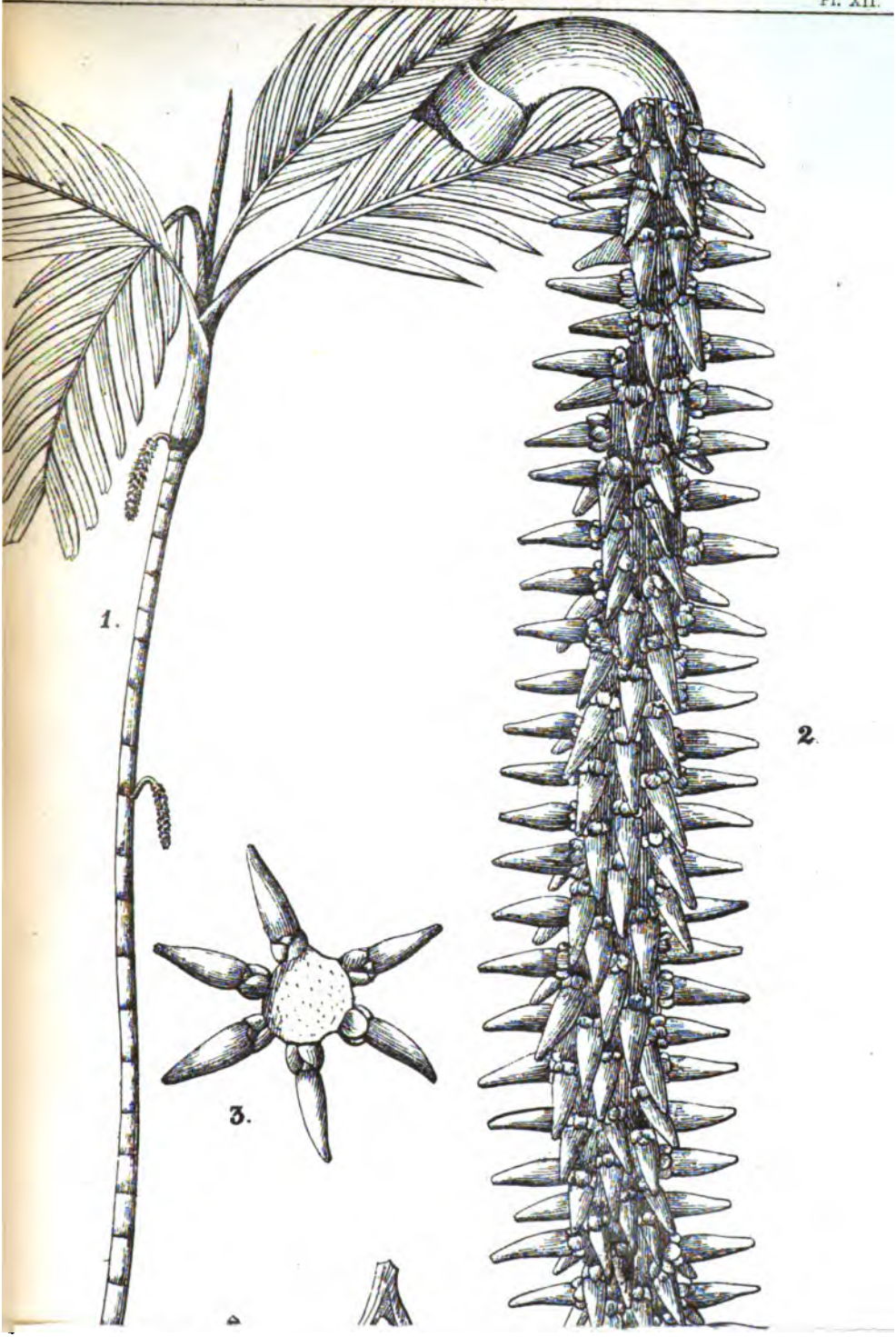
1. CISTICOLA MUNIPURENSIS Nat Size
2 PRINIA RUFULA

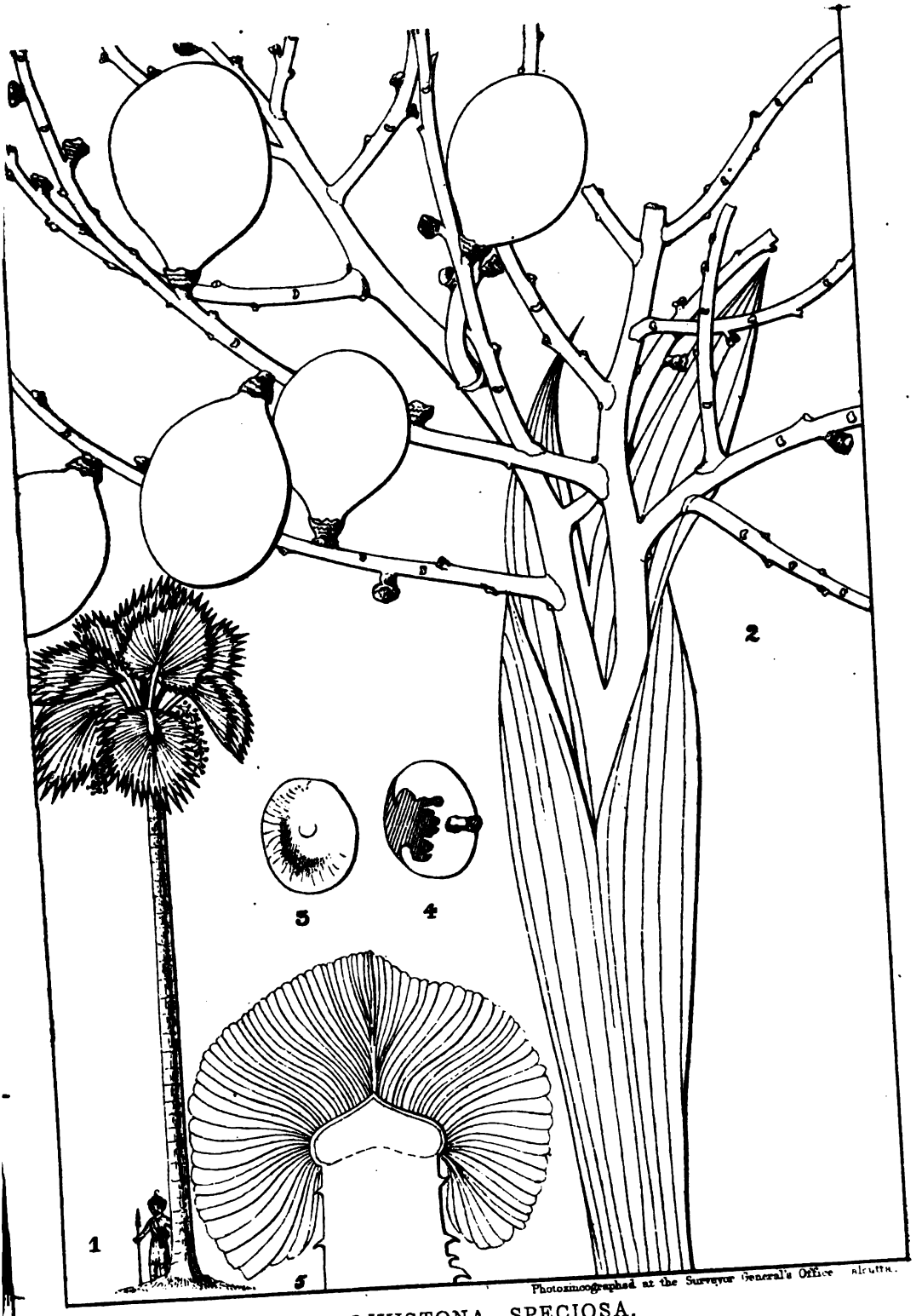
Mackrow & Macdonald imp



Godwin-Austen, del. Maclure & Macdonald imp

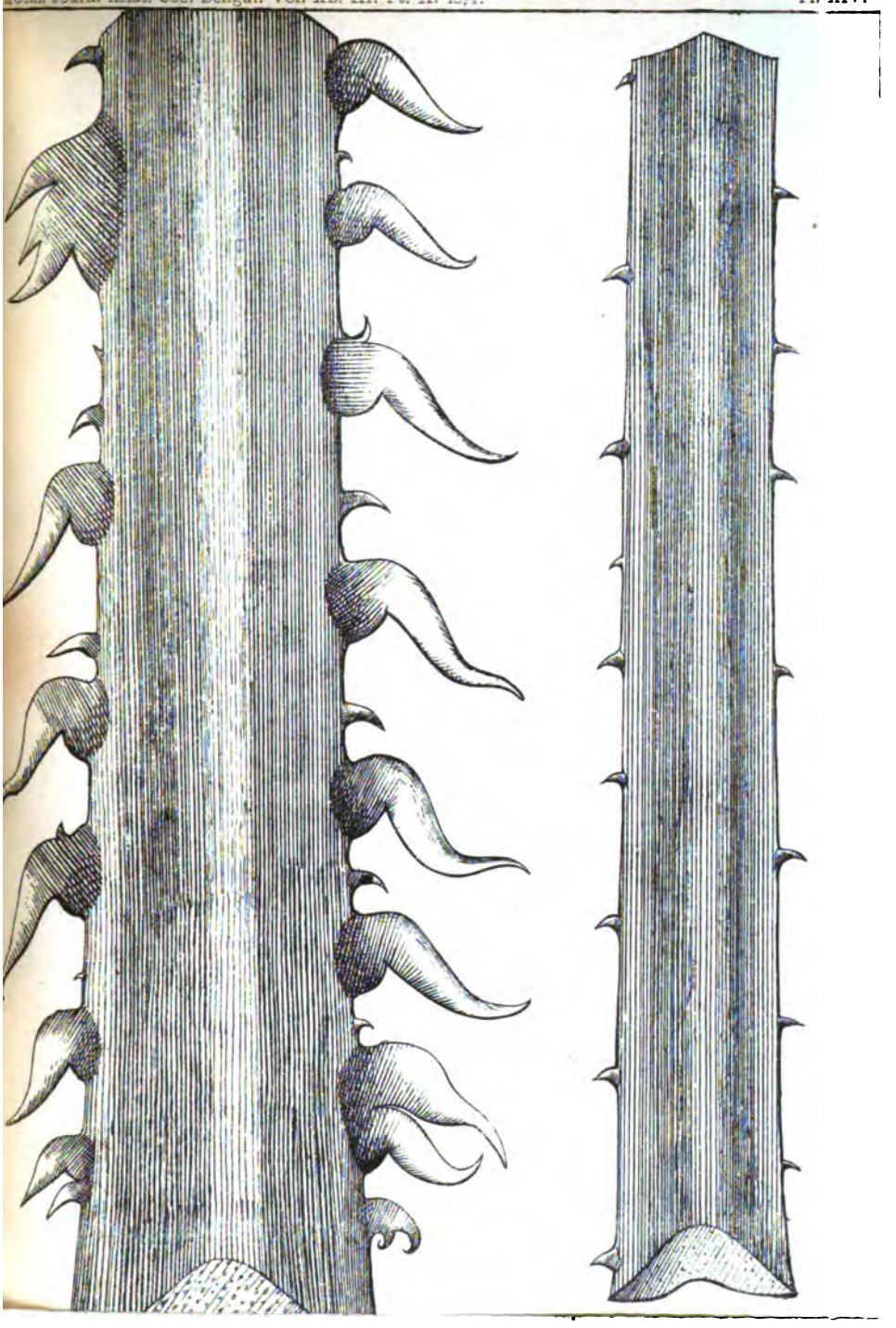
1. CISTICOLA MELANOCEPHALA. Nat Size.
2. " SCHÆNICOLA. "


1.
2.
3.



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LIVISTONA SPECIOSA.

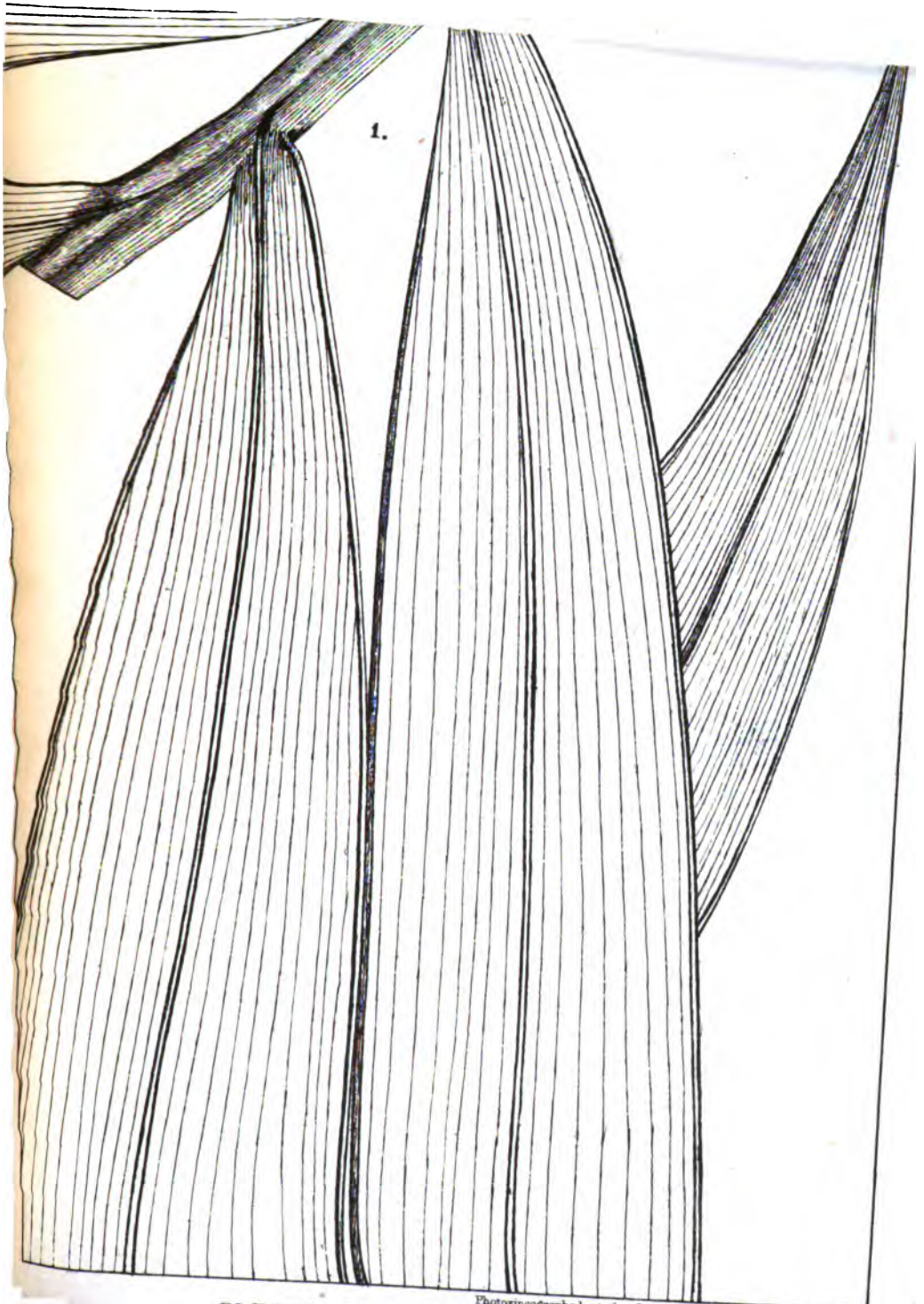


Photozincographed at the Surveyor General's Office, Calc

KURZ. Journ: 4

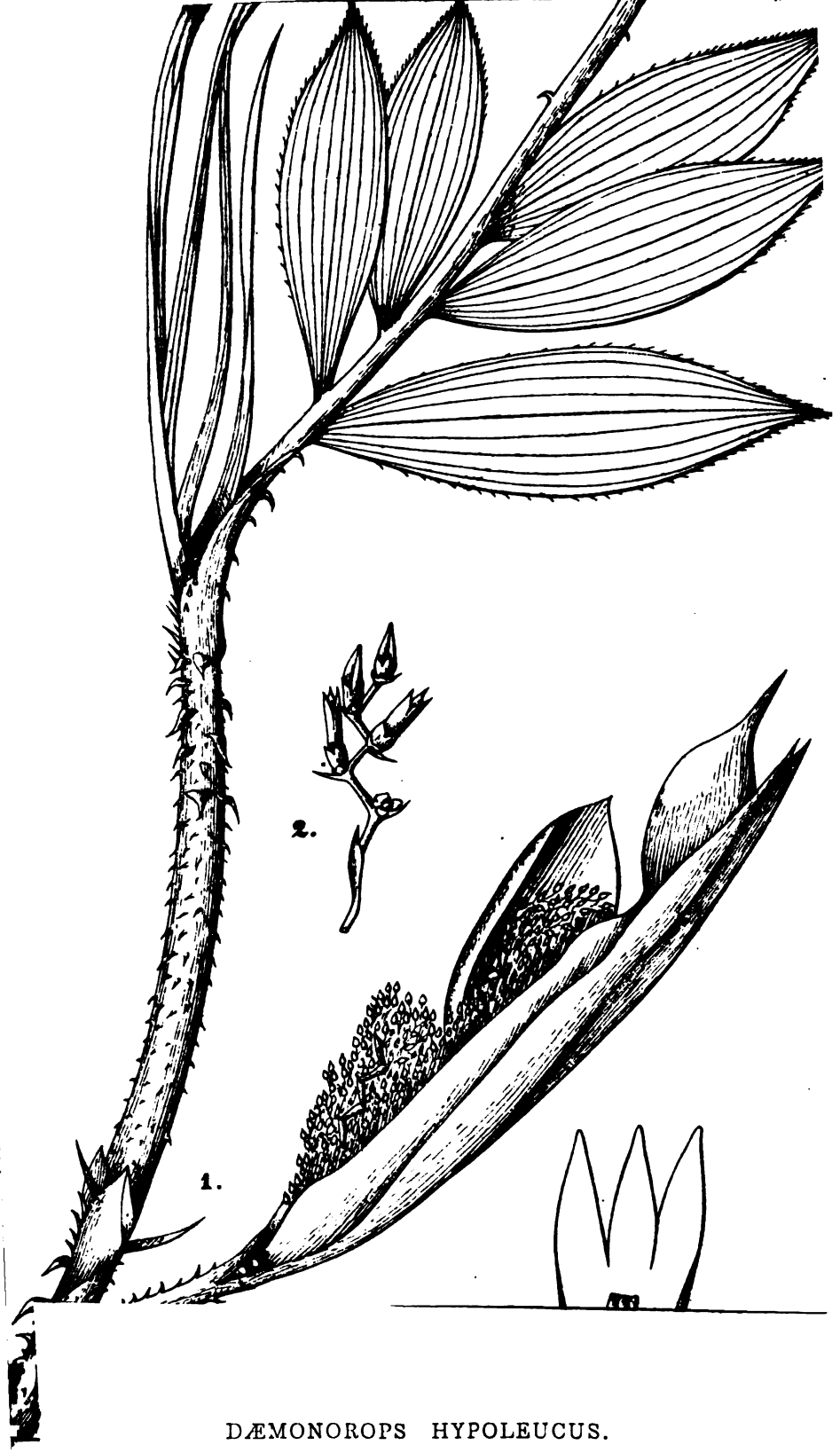
Photozincographed at the Surveyor General's Office


3.
4.
5.
6.
2.
1.

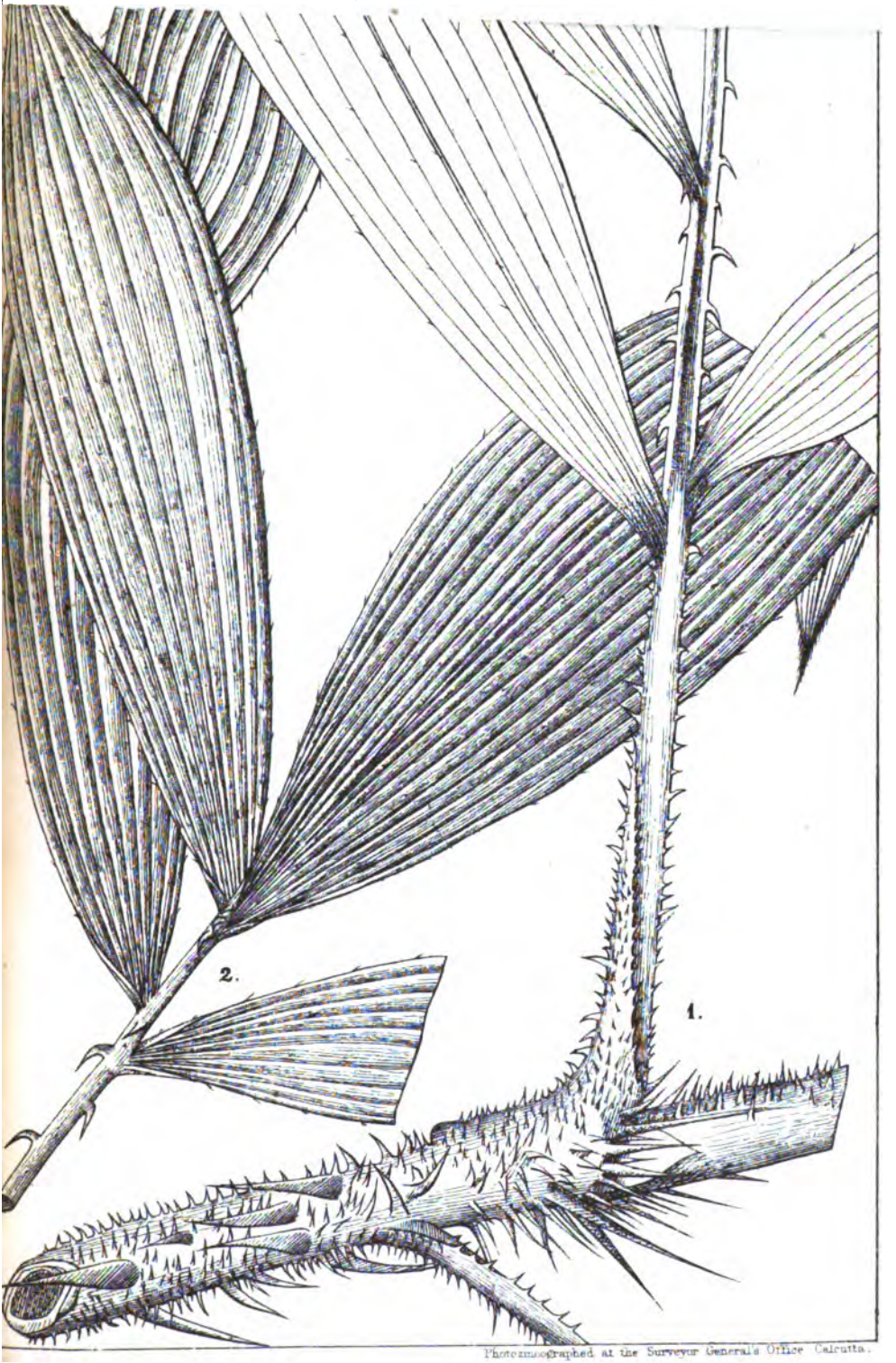


PLECTOGOMIA

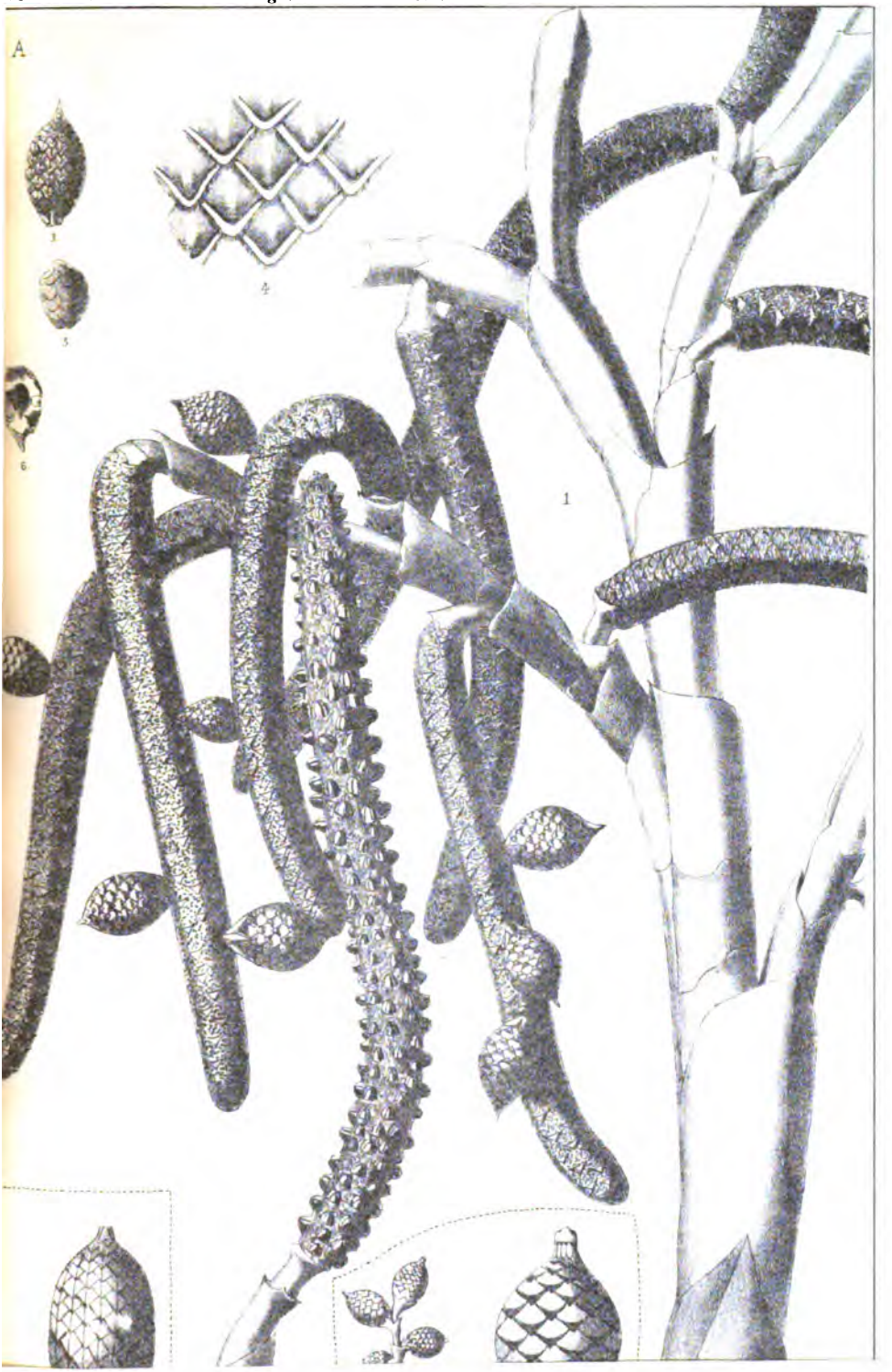
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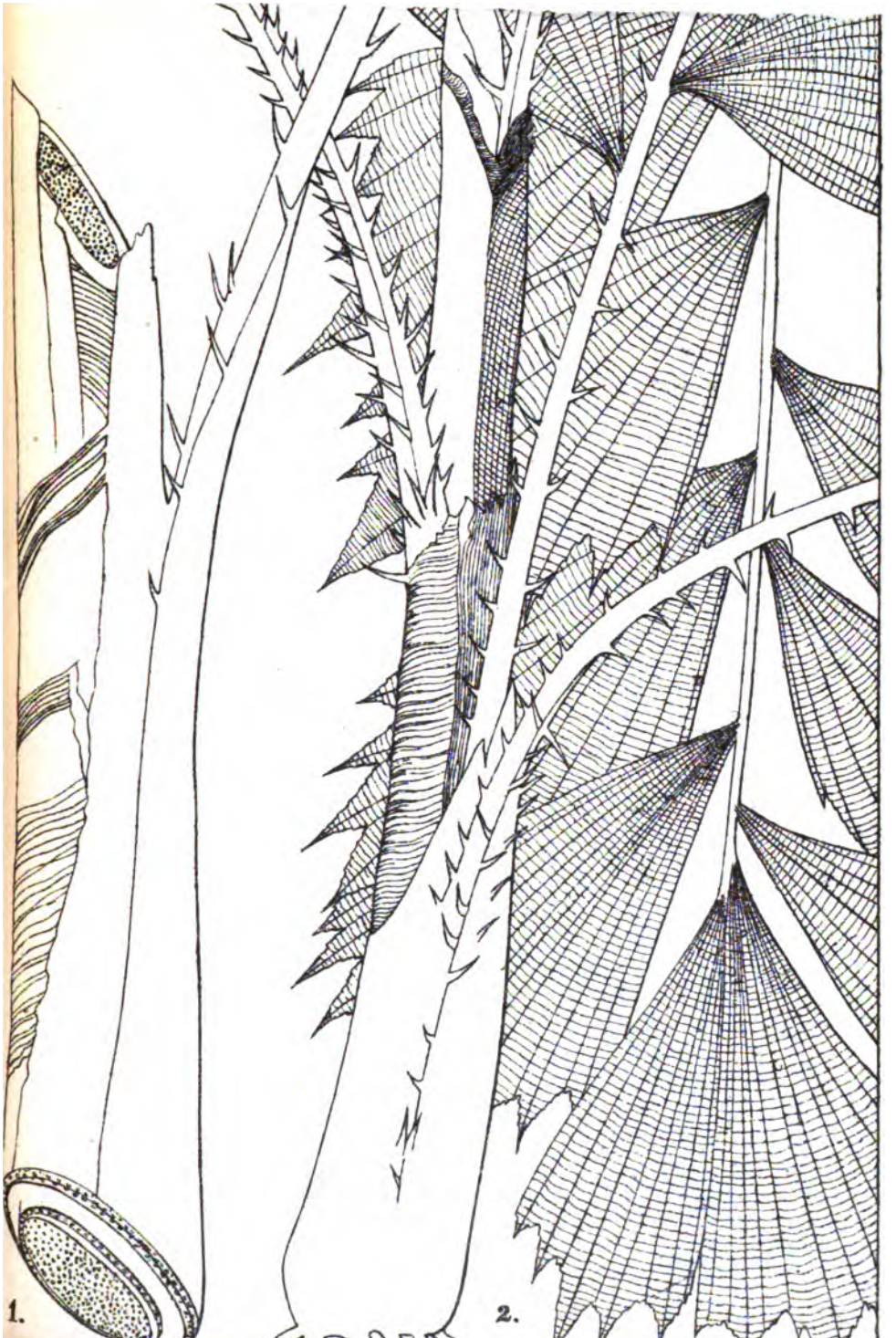


DÆMONOROPS HYPOLEUCUS.

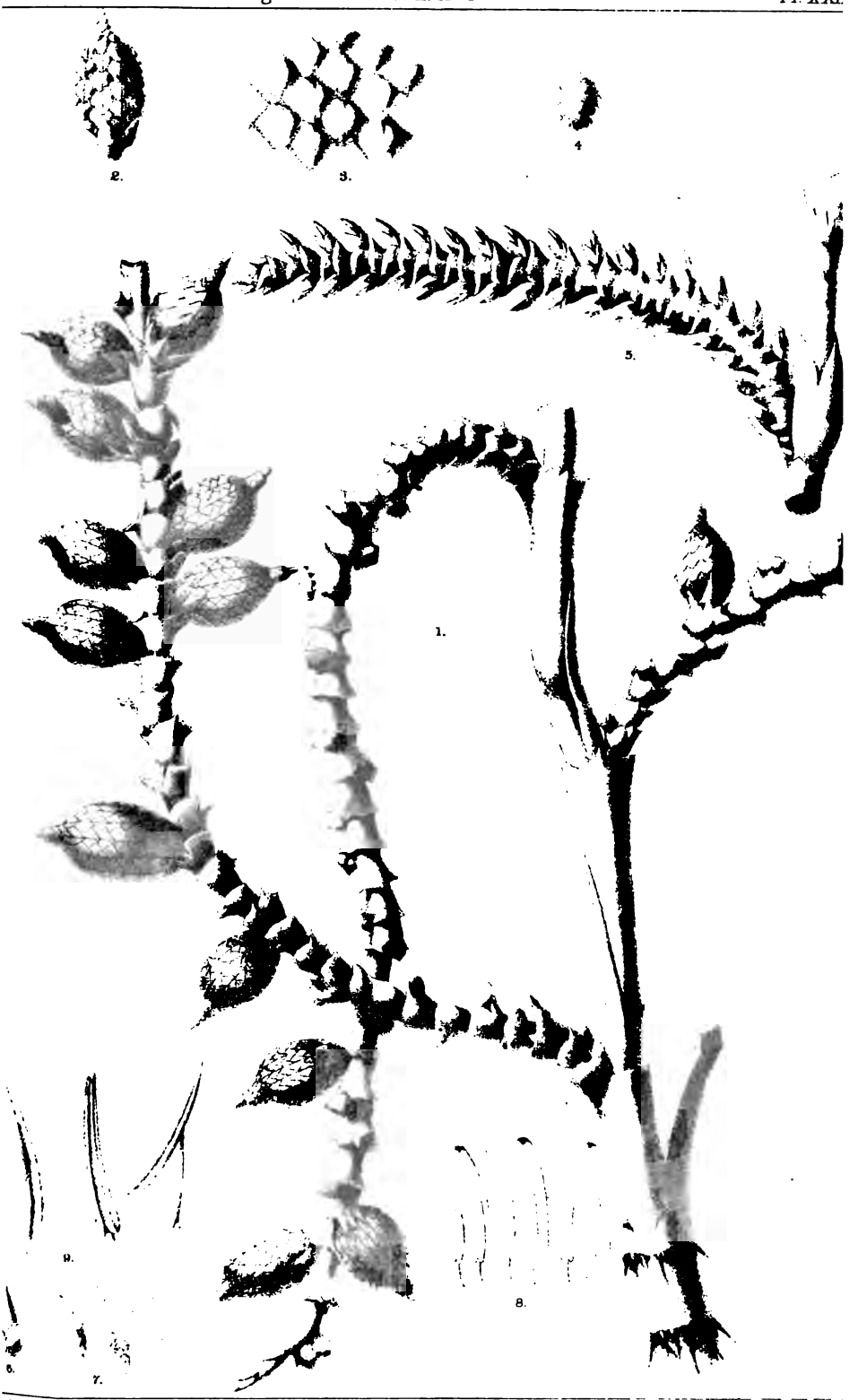


DÆMONOROPS HYPOLEUCUS.


A
1
4
3
6
1



Photozincographed at the Surveyor General's Office, Calcutta.



Schaumburg, Lith:

CALAMUS ARBORESCENS.


1
2
3
4
5

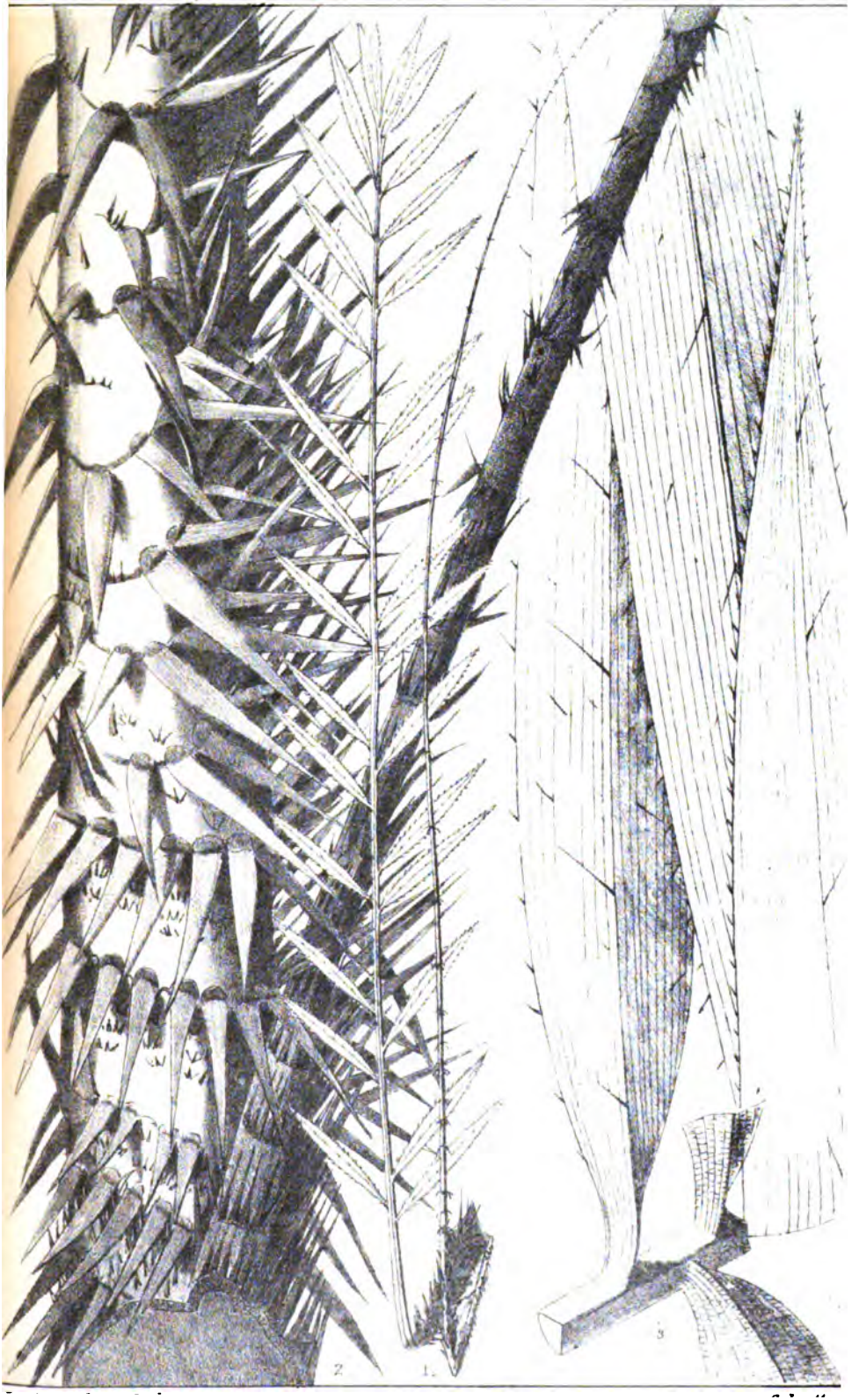


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CALAMUS ERECTUS.

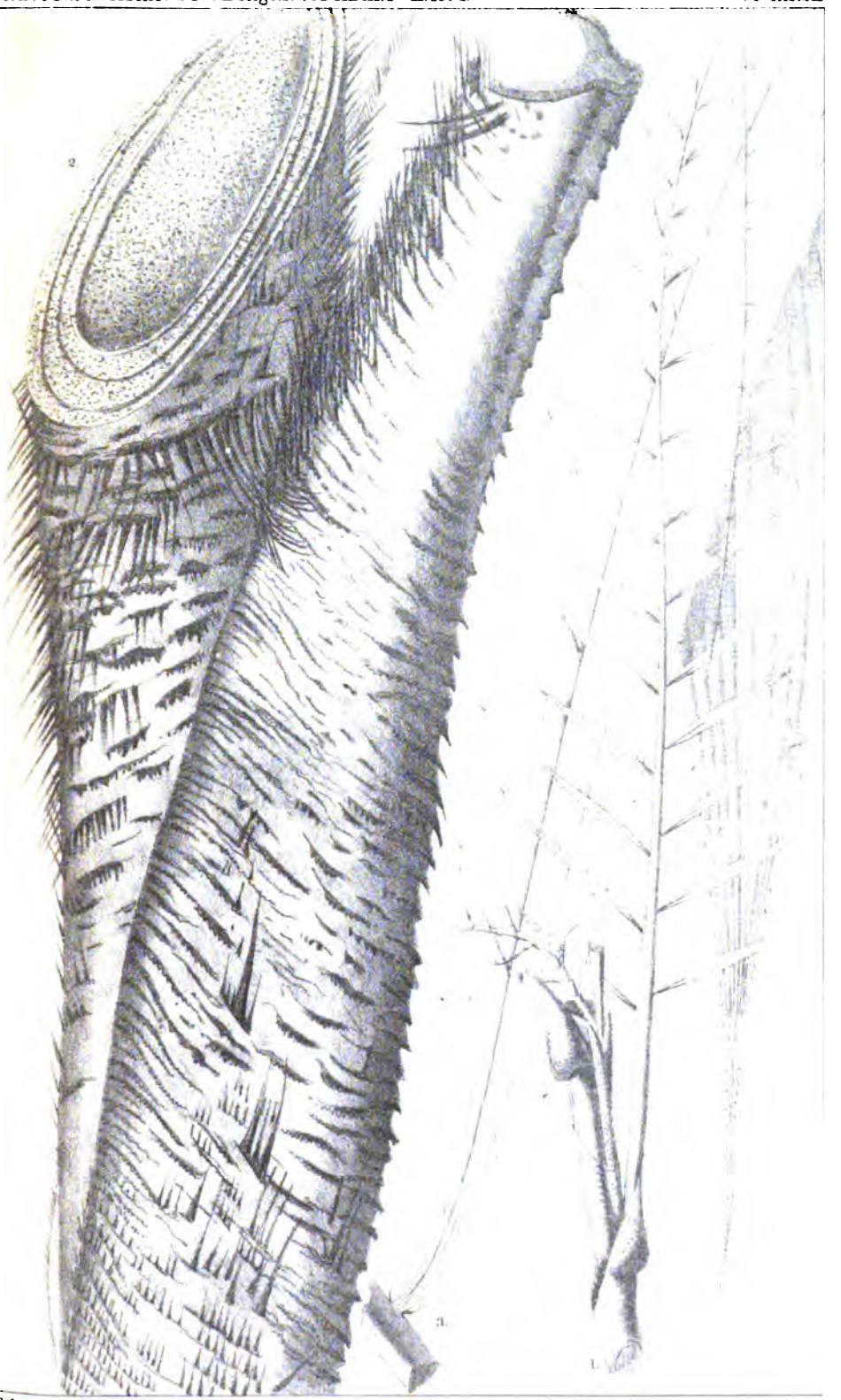


CALAMUS TIGRINUS


2
1
3

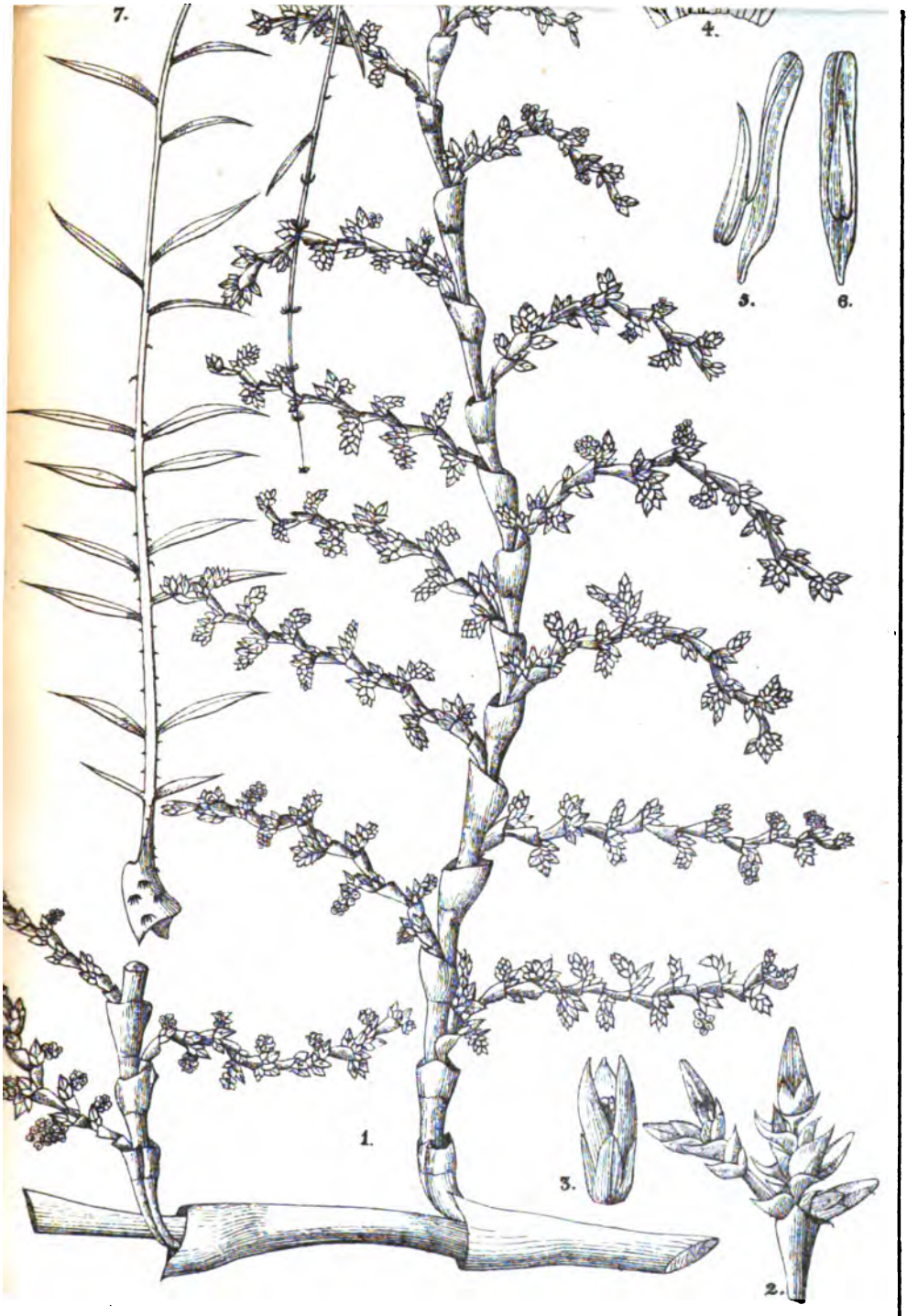


A. ANDAMANICUS. B. C FASCICULATUS



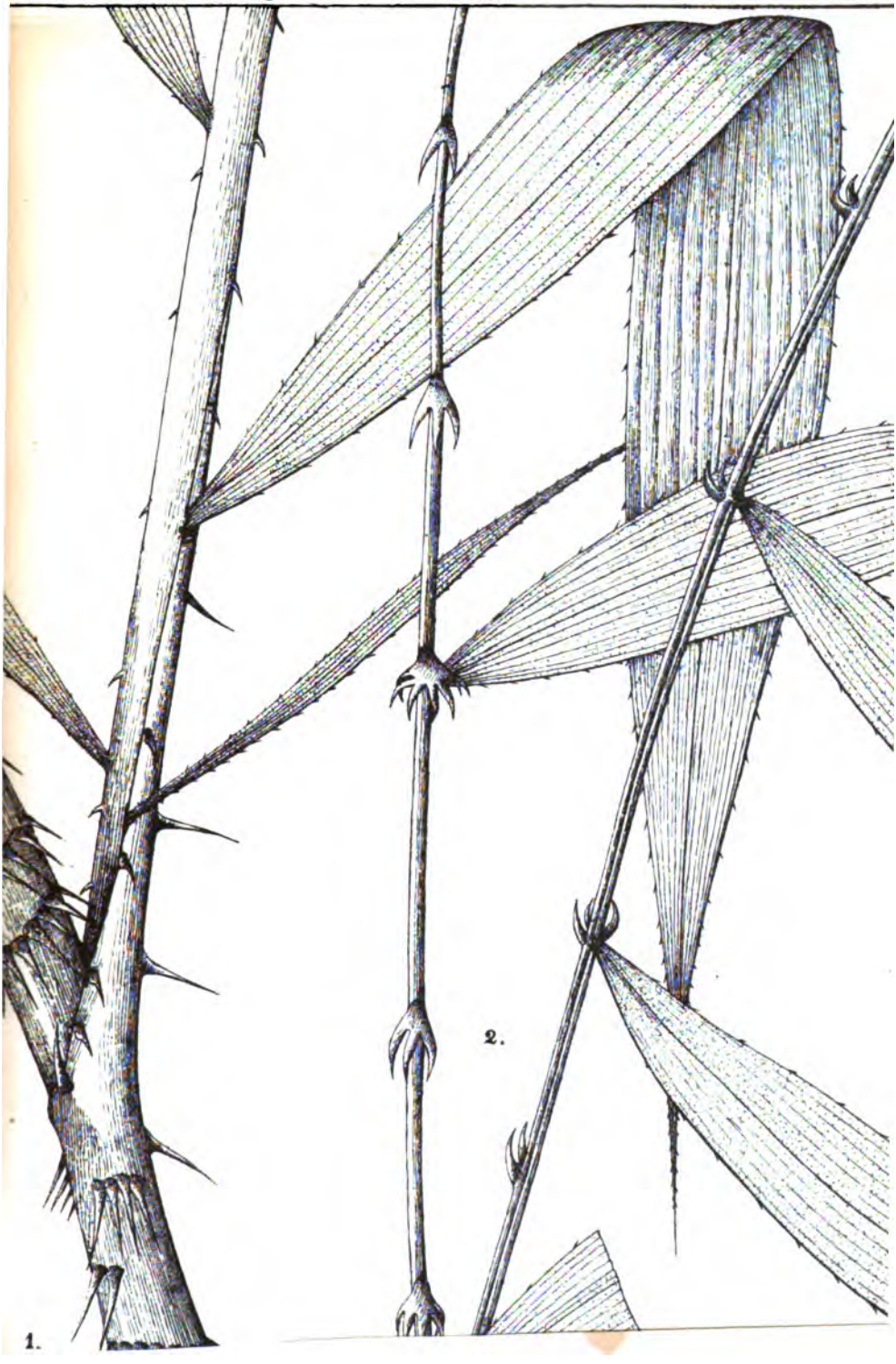
Schaumburg, Lith.

CALAMUS ANDAMANICUS, Q.

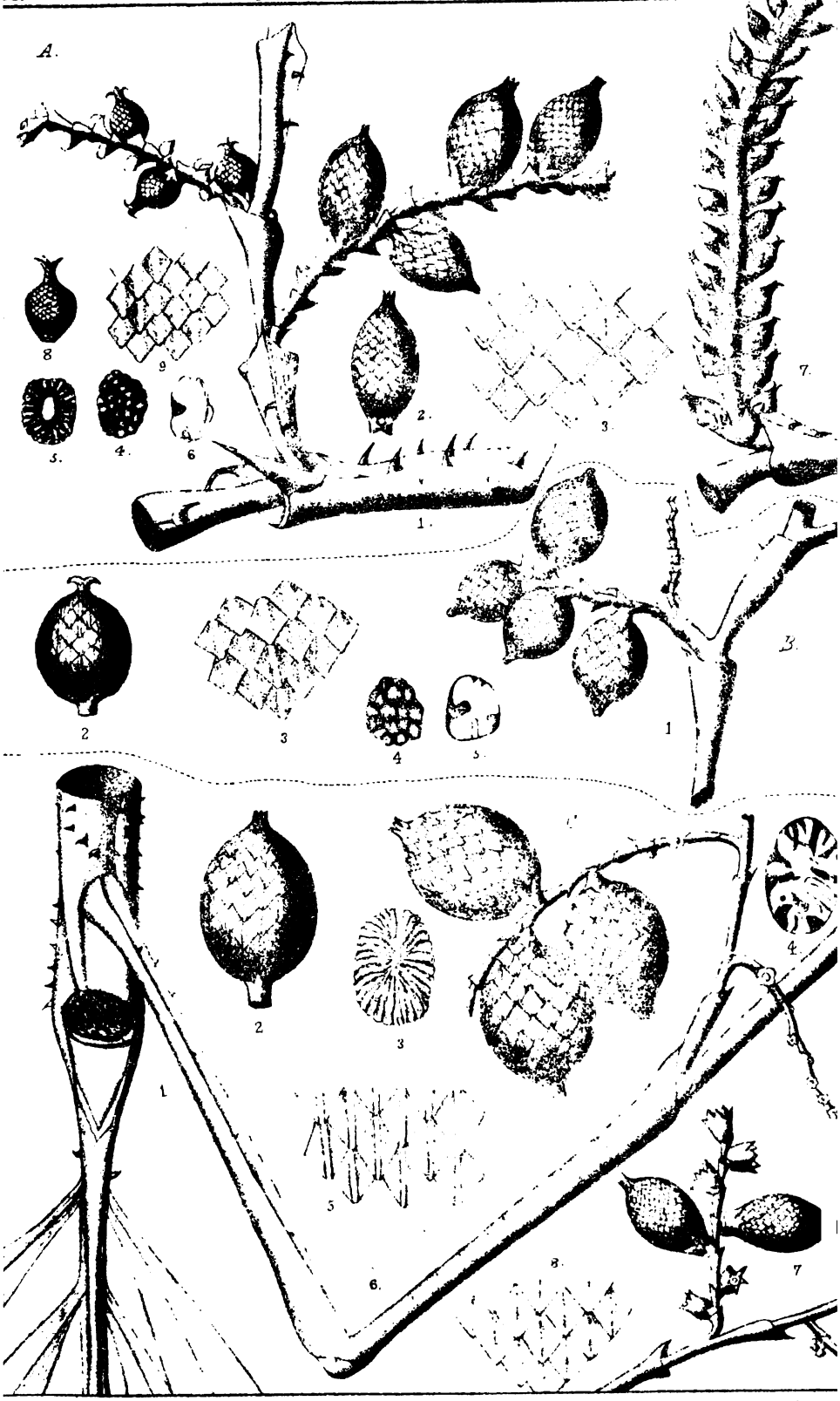


Photozincographed at the Surveyor General's Office Calcutta.

CALAMUS PARADOXUS.



Calamus latifolius B. C. tenuis C. C. fragilis



V. Dás. Lith. A Calamus latifolius. B C. fenus. C C. fragilis. Calcutta

